Clinical Lecture
ON THE
DIAGNOSIS OF LUNG INFLAMMATIONS.

Delivered at the Westminster Hospital,

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(Concluded from p. 341).

Now the question is—How is the third case I have described related to the other two? I have already insisted that those were only different modes of the same affection. I will now insist that this last case is essentially different from the others, and that even where it seems to resemble them most its points of likeness are only apparent.

As regards the symptoms, I am prepared indeed to admit a certain likeness. In all diseases whatever which involve a rapid filling up of lung, leaving pervious only the larger passages, those physical symptoms on which we chiefly rely are of necessity similar. That is no more than saying that in affections of this class we trust very largely to a method of diagnosis which is imperfect and insufficient. Yet even here there is a difference. In this third case both lungs suffer, and in succession to bronchitis; there is no one spot where solidified lung is especially signified; there are, on the contrary, degrees of bronchial breathing affecting a very wide area of both lungs, only more here or more there, and throughout both there is heard subcrepitant râle. It is true that something similar occurs in double pneumonia. Double pneumonia, however (in the sense of the first two cases), is a rare event. When it happens the consolidation which it causes is distinctive enough and distinctly limited; a solid patch somewhere in one lung, and another solid patch somewhere else (not placed symmetrically, that is) in the other lung. You do not get, as here, gradations of morbid sound everywhere, with no place where the ear can make certain of solid substance traversed by medium-sized air-tubes, yet no place where respiration is absolutely free. The physical signs are diffused, as are the material morbid products to which they are due.

I will not dwell upon the character of the sputum, for this sign is sometimes altogether absent. Nevertheless whenever spitting occurs, and the expectoration is quite uncoloured, or if coloured is not rusty, but only imperfectly and unequally mixed with blood, I think there is strong reason to doubt the existence, or the very near approach, of hepatization, meaning thereby the firm, liver-like solidity of short continuance and active transition first named by Laennec.

But I would not maintain a fundamental difference on these grounds alone. The physical distinction is, as I have said, the least of all. There is besides a separate mode of origin and of progress, while the condition of the lung after death, whether the patient die early or late, is unlike that which pneumonia produces, at whatever stage.

Observe that in this last case the signs of lung inflammation, which are secondary both to diarrhœa and to bronchitis, continue with but little change for nearly two weeks. The patient perishes at last, not by any active process of lung destruction, but from the choking-up of his breathing space. Upon his death the lung is found occupied by inflammatory products, whose immediate harm is due to their mere presence and the fact that their room is wanted. How different is the course of events in the other two patients. We see in them a rapid succession of phenomena which can be watched from day to day. When once recognised we know, not indeed that the patients will recover (though we have strong reason to expect as much), but that, whether recovering or not, the morbid changes which they are undergoing will reach their end one way or the other within a certain time, and that there will be no pause or indefinite waiting. Progress is certain, and if the lung does not mend it spoils. In the fatal cases we find evidence of rapid destruction, just as in the favourable cases we find evidence of rapid restoration.

There is thus a further point of distinction in this third instance. It stands still. For nearly three weeks the boy struggles with a disease—or, may we not rather say with the material products of a disease—which will neither advance nor recede. The cause of death is in a measure mechanical. It is impossible, indeed, that an affection so directly implicating the pulmonary circulation can take the shape of a merely local affection like pleurisy. The imperfect aeration of blood and its mechanical delay will make it more than that. And yet it is not a general disease in the same sense as that of which hepatisation is the exponent. You may have there, as we have seen, extreme constitutional disturbance with small local change, or the reverse; you have here disturbance more or less, exactly *pari passu* with local change. The condition of this boy was mainly determined by his physical defect; he grows gradually worse as his breathing capacity is abridged. It is with him the very reverse of what happened with the other two; these, as we saw, were gravely ill at the first onset, before the lung was itself reached, and got relief, as in a moment, after hepatisation was complete.

And the anatomical difference is not less marked. It is obvious, indeed, although we do not always speak as if it were, that post-mortem evidence of a commonly recovering affection like pneumonia must be taken from exceptional cases. The minute anatomy of pneumonia only presents one side of it. We are sufficiently informed, however, in respect of gross physical changes without the help of death. We know from auscultation that a portion of lung rapidly becomes solid, we see that blood oozes from it, and may often find in the sputa, moulded into shape, the very material whose exudation has contributed to make it solid. By similar evidence it is perceived that this stopped lung presently reopens and resumes its function. Engorgement, consolidation, resolution thus rapidly succeed each other in a local process so active and continuous that its whole course may be run in three or four days.

In the exceptional fatal instances we know still better from actual inspection that the process of destruction is not less active than the process of restoration. We do not find (unless the patient has succumbed at once) consolidation merely, but softening as well. It is not only that the lung is occupied by an exudation which has failed to liquefy—it is that the lung itself has been attacked by a destructive inflammation. In the post-mortem room you recognise this condition of lung infallibly. It is airless and liver-like, red shading into grey variously, and where it is grey there also it is yielding, so as to melt into pus before the finger; and its surface is smeared with soft lymph. You may ask, indeed, whether any proposed classification should not go further, and distinguish between the pneumonia which is harmless and transient and that which is so rapidly destructive. This, however, is not now the question. I can hardly doubt that the rapidly fatal pneumonia which, judging from its clinical history, seems almost to *begin* with destruction, is really separate from the affection that we saw in the first two cases. As recovery is certainly spontaneous in the one, so it is probable that death is inevitable in the other. The credit that is given to drugs, though much reduced within present memory, may still be excessive. But this inherent difference is not one which can be made out at the beginning. As practical physicians we have to group diseases as they seem; we cannot read their spirit. No one supposes that our classification is an absolutely accurate representation. However wide the difference between recovering and fatal pneumonia, their course is for a while alike, and in that while we have to act. It is otherwise in the instance now before us. Neither do its clinical symptoms nor its post-mortem signs correspond at any time with any stage whatever of that active yet orderly process of which the first two cases are examples.

Observe that in our fatal case both the lungs are implicated similarly, though one more than the other, but they are nowhere hepatised nor infiltrated with pus. Such solidity as they have is not liver-like, but spleen-like; not that their texture is like spleen, but because they are solid by lobules, and that between these lies spongy, yielding lung. Observe, moreover, that these semi-solid lungs are not covered over with a membranous layer which can be detached in flakes, as you are accustomed to see in wholly solid or (as it is well called) hepatised lung; it is invested by a sticky material, like a surface of newly-laid glue, by means of which the lungs adhere to the chest-walls, and their several lobes to one another. Both the surface, therefore, and the substance of these lungs are wanting in the material which gives both bulk and solidity to hepatised lung. Further, when this

lung is cut into it does not exude blood so much as water; it is rather œdematous than hyperæmic.

I need not stop to show how these appearances differ from what you find in that form of disease (call it as you will) of which the first two cases are illustrations. With these a few days suffice to render solid a particular portion of one lung, and a few days more to restore it. With this there follows upon general bronchitis a not less general inflammation of lung, and the lung inflammation, like the bronchitis, assumes the character of a chronic affection, of which none can tell either the duration or the vicissitudes.

Even supposing we had no history of this last case, and no means of knowing its duration, still the implication of both lungs, the diffused character of the consolidation, and the absence, or rather the character, of pleurisy would go far to distinguish it post mortem. There are only two conditions of the hepatising lung of fresh pneumonia for which this latter form of inflammation could be taken—the early stage of engorgement with consolidation just commencing, and the final stage of resolution with consolidation receding. From the first the absence of hyperæmia and the scattered disposition of the consolidation would distinguish it; from the second we need hardly seek to distinguish it, since the actual inspection of a "double pneumonia" in the very act of recovery is a sight denied to most of us, and not likely to become common.

There is another point of great practical importance. Lobular consolidation is a slow process. Day by day the chest yields the same physical signs, so that after a while we become less diligent in auscultation than when the changes are more rapid and continuous. It needs to be remembered, however, that pleural effusion is here no uncommon event. With extreme rapidity sometimes, and without pain or other notice, the pleural cavity will fill with fluid, the inflamed lung receding before it, so that upon death it is found partly solid from inflammation, and partly carnified from pressure. Such an effusion is rare in pneumonia, where, indeed, there is less room for it. Happening here it may so compress the lung as to cause death just as surely and in just the same way as though the fluid occupied the pulmonary structure. Œdema of the lung, however, is a condition for which we can do but little. Pleural fluid is most easily and quickly removed by aspiration.

But the inflammation of lung of which I am now speaking may be further contrasted with the others by its associations. It is essentially a consecutive affection, whilst the hepatising and resolving pneumonia (so to call it) is apt to arise fresh and abruptly upon some definite exposure. It is in this difference of origin, in the fact that pneumonia is rarely seen where lung inflammation is most common, that we find the strongest sanction for keeping the two apart. In our third case the earliest symptoms were enteric, and bronchitis preceded vesicular inflammation. In the majority of instances the secondary character of the disease is still more obvious than it was here. Whenever, indeed, you meet with this form of inflammation you may be sure that there is something behind, and safely assume that the larger bronchi were affected earlier than the vesicular structure. The bronchitis of the aged, where there is ventricular dilatation, and, perhaps, degenerative change, is apt to prove fatal in this way; so is renal dropsy, the lung becoming first œdematous and presently choked up with catarrhal products. Weakly children with bronchitis, or with measles, are exposed to the same danger. Such subjects are popularly said to die of inflammation of the lungs. With less truth, but growing fondness for our technical terms, it is beginning to be said that they die of "pneumonia." But of pneumonia, as I have spoken of it, they hardly ever die. You do not find, that is, a single lobe or the whole of one lung solid and lymph-covered; you find the two lungs affected in larger or smaller patches, and you find bronchitis. To the bronchial catarrh pulmonary catarrh has been superadded.

Finally, I might go on to insist that the difference we have seen all along between pneumonia and disseminated lobular inflammation stretches beyond the mere event, and is to be found in the remote effects of the two affections upon the lung structure. As one example of this, the catarrhal lung-inflammation which is a common sequel of measles will sometimes break out afresh in the form of phthisis. Even without measles these same catarrhal products, resulting from some accidental exposure, and little heeded at the time, seem to act as the direct agents in procuring a similar destruction. So far, no doubt, the permanent recovery from apparently grave pneumonia may be contrasted with the permanent damage from apparently trivial alveolar catarrh. The one is dangerous in its immediate results, the other in its remote consequences. Yet I question whether we can safely generalise in this manner, or whether, in tracing the successive steps of alveolar catarrh, and making necrobiosis[1] quite a mechanical matter of squeezing on the part of imprisoned cells, we are not constructing a pathology more compendious and uniform than the facts admit of.

And this reminds me to say a word, in conclusion, to an objection which may have arisen in your minds against the whole tenour of this discourse. Is it not, you may be saying, a superficial and unscientific view which would separate by an impassable barrier those forms of inflammation which a minute scrutiny of the lung-structure has shown to be intimately connected? You may object that the instances I have placed before you have between them every gradation of difference, and that clinical evidence, if not wilfully narrowed, confirms the testimony of minute anatomy in exhibiting a close relationship between conditions which I seek to isolate.

Now, it is perfectly true, and I have repeatedly called attention to the fact, that in examining microscopically a portion of inflamed lung, be the condition lobar or lobular, "croupous" or "catarrhal," you may encounter precisely the same corpuscular and epithelial elements, so that it is not possible upon this evidence alone to recognise the distinctions upon which I have been insisting. But if this fact may be quoted to prove a real connexion between lung inflammations which seem to be different, it may be quoted as well as showing that the material products of disease which, so far as can be seen, looking at them dead, are indistinguishable, may have a separate origin and a separate future. Seen at a single point, and apart from their surroundings, they are of no definite significance. Conclusions from such partial observations are as fallacious as those drawn (as was, indeed, once the practice) from a single physical sign. It becomes necessary therefore to look further; and you find thereupon, as I have been endeavouring to point out, that the anatomical characters, viewed as a whole, accord with the clinical. For one combination of clinical symptoms there is a corresponding combination of morbid signs, yet always with the common factor, inflammation. Thus, while it is of practical use, and from a due observation of nature, that we separate an affection like pneumonia, of fixed duration and orderly progress, whose danger lies in the present, from other lung inflammations which are indefinitely prolonged, and productive of permanent mischief, there is significance as well in the teaching of minute anatomy. With a wide divergence in these affections we yet see continually how they tend to approach in virtue of their common element, and are able to recognise many transition-forms which are left undescribed in set treatises.

[1] Rindfleisch, ii., 31. Sydenham Society's edition.

Clinical Lecture
ON A
CASE OF URETHRAL FEVER.

Delivered at the Liverpool Royal Infirmary,

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GENTLEMEN,—In continuation of the clinical lectures on the surgical diseases of the urinary organs commenced last summer session, I purpose to-day bringing under your notice certain complications which may be regarded as accidental to the course and treatment of this class of affections. And in the first place I would remind you that no operation in surgery, however slight it may appear, or dexterously performed, can be regarded as absolutely free from danger. Nature will at times resent interference, however loudly demanded, in a manner little anticipated, and often inexplicable; and in this "chapter of accidents" I shall first notice certain phenomena occasionally following the passage of instruments along the urethra, to which has been applied the name of "urethral fever."

It not unfrequently happens that within a few hours after the passage of a bougie the patient experiences a sense of chilliness; this rigor, as it is technically called, is usually followed by more or less febrile excitement, which quickly subsides without causing the patient much inconvenience or distress.

Going to the opposite direction, we now and then meet with an instance where similar symptoms, but of the gravest intensity, are speedily followed by death. I very well remember, as I happened to have charge of the ward at the time, the fatal case alluded to in Mr. Mitchell Banks' excellent paper on urethral fever,[1] where death followed the introduction of a bougie in six hours and a half. Fortunately such tragical instances as these are exceedingly rare.

Varying between the two extremes I have instanced, we meet with every degree of severity, but in all a resemblance to fever can be made out.

I do not think I can better inform you about urethral fever than by narrating to you the particulars of a case which has been recently in one of my wards, and which you had an opportunity of observing. Those of you who saw the case with me will remember the extreme severity of the symptoms and the small amount of hope we entertained of saving the patient's life. Fortunately a fatal termination was averted, and this in a large measure was due to the assiduous and unceasing care of those who watched the patient throughout his illness.

Thomas R——, aged forty, an engineer, was admitted into No. 1 ward on Sept. 20th, 1876. He had suffered from stricture for some time, the symptoms of which had recently become exceedingly urgent. I found a stricture just behind the bulb, which would with some tightness admit a No. 3 bougie. For three weeks gradual dilatation was practised until No. 7 was reached. From the feel of the stricture I thought it better to substitute some other plan of treatment, and with this view passed a Holt's dilator. The instrument was arrested at the stricture, and, without using more force than would have been judicious, could not be passed fairly through it. Under these circumstances I postponed the attempt to rupture the stricture. Some slight bleeding followed this. Four hours afterwards, at 6 P.M., the patient had a rigor. I should have stated that on no previous occasion was there a rigor, and that up to this time he had passed urine in a small stream, but natural in quality. At 9 P.M., or three hours after the rigor, his temperature had risen to 104°. At 12 P.M. he vomited. At 5 A.M. on the following day (21st) he had another rigor, followed in an hour by vomiting, the temperature remaining at 104°. On the occurrence of the first rigor five grains of quinine were given to him, and continued for three doses every six hours. On the next day (22nd) he had three rigors, followed by vomiting, the temperature varying between 96° and 102°. At 5 P.M. on this day he passed urine for the first time since the introduction of the bougie; it amounted to only four ounces, and was high-coloured and very albuminous; this, in fact, represented all the urine he had passed for over fifty hours. On the day following his temperature varied between 94° and 96·2°. He was very drowsy. His tongue was dry and brown, and his pulse quick and thready. There was every indication of speedy death. At 10 A.M. on this day he passed two ounces of urine. On the next day his temperature rose to 100°. He passed nine ounces of urine, and vomited once. His general condition remained much as on the previous day. His skin, which had been free from perspiration throughout his illness, was of a dirty sallow colour. On the 25th he passed twenty ounces of urine during the twenty-four hours, and on the 26th eighteen ounces, the albumen having fallen to one-twelfth. On the 27th the temperature varied between 96° and 101°. The urine was normal in quantity, but still contained albumen. From this date convalescence commenced, and by Oct. 30th all grounds for uneasiness had disappeared, the urine being normal both in quantity and quality.

For the first four days the patient remained in a semi-comatose condition, occasionally waking up, and talking, or rather muttering, deliriously; and this state of mind continued until the normal secretion of urine was re-established. He appeared to vomit independently of any fluid he might have taken. I am sorry that the vomited matter was not retained for closer examination, as this discharge might have been found eliminating something which the kidneys had ceased to do. I can only repeat that for one week we could but hourly expect the death of the patient, his symptoms being such as are rarely recovered from.

In reviewing this instructive case no one for a moment can doubt that the condition was brought about by the surgical interference to which the urethra was subjected on the 20th of October. What, then, was the exciting cause of these symptoms? Were they occasioned by what we understand as a shock to the nervous system, or do they indicate the reception into the system of such contaminating influences as we believe cause pyæmia? In looking for an explanation we are met by the suggestion that the existence of organic disease, such as of the kidney, is necessary to the causation of urethral fever. Now, although disease of the kidney is frequently found in cases of stricture, and has been shown to be present in some cases where urethral fever has terminated fatally, in the present instance we had no evidence of the complication existing; on the contrary, it was only during the presence of these symptoms that the kidneys were implicated, the urine being normal before the rigor, and returning to its natural condition as the febrile state passed away. In this case the effect produced upon the kidneys was very remarkable, fifty-one hours and a half elapsing before urine was passed, and then only amounting to four ounces. During the next twenty-four hours two ounces were passed. This was increased the following day and night to nine ounces, after which the quantity became natural. Nor was there, as far as could be ascertained, any compensatory means of elimination, the bowels being constipated, and the skin harsh and dry.

I am of opinion that cases such as I have narrated strengthen the conclusion that these symptoms are due to shock propagated by the sympathetic system, which, as we know, so largely supplies the generative organs. Various considerations support this view, and at the same time are suggestive as to how such a complication may the more surely be avoided. In looking over my notes, and referring to those cases where anæsthetics have been employed for catheterisation, I observe an entire absence of serious symptoms following the operation, thus indicating that the consciousness of pain may be an important factor in their production. Now there is no pain so telling as that caused by tension, as when a tightly fitting instrument is slowly pushed through a strongly resisting contraction. Hence it is of the first importance, in employing dilatation for the treatment of stricture, to stop short of reaching that sized bougie which *can* be passed into the bladder, but only by the employment of more than a moderate amount of force. Again, there cannot be a doubt that patients suffering from structural disease of the kidney are more liable to these attacks than those who are not. Such persons we know are more readily shocked than others, and consequently surgical interference must be confined to what is necessary to the exigencies of the case rather than to that which might, under other circumstances, be desirable. Again would I insist upon the importance of making a careful examination of the urine, where circumstances permit, when you are about to undertake the treatment of a stricture.

Frequently we are called upon by the pressing nature of the case to commence treatment with little regard to those preliminaries we should, under other circumstances, employ; but we should remember that no class of ailments more urgently require such consideration, or are more benefited and influenced by previous preparation, than these.

In regard to the treatment of urethral fever I have only a few observations to make. And first of all in reference to its prevention. Where I have any reason to fear a rigor coming on after the passage of an instrument, I invariably prescribe a two-minim dose of Fleming's tincture of aconite, to be given immediately after the operation. This practice was first suggested by Mr. Long. I have found it almost unfailing. On the occurrence of a rigor I have generally used quinine in five- to ten-grain doses, combining it with aconite where there are early indications of febrile excitement. In the management of suppression of urine, which more or less attends the severer cases, our efforts should be directed towards securing elimination of the excreta, which the kidneys fail to do. This may be done by acting on the skin by vapour baths, or, what is almost equally efficacious, by placing the patient in a hot bath and then enveloping him in blankets. I should not forget to mention that the infusion of digitalis, given frequently in teaspoonful doses,

[1] Edinburgh Medical Journal, June, 1871.

has been strongly recommended for its action on the kidneys where stimulating diuretics would be out of place. In the case I have narrated milk and brandy were given to the patient as often as circumstances would permit.

Cases of urethral fever are occasionally so serious and apparently so out of proportion to the cause producing it, that you will do well at all times to remember, in treating stricture, the possibility of its occurrence. I have therefore thought it my duty to lay stress upon the very marked instance we have had the opportunity of observing.

[The lecture concluded with some observations on hæmorrhage from the urethra and false passages.]

FILARIA SANGUINIS HOMINIS.

BY SIR J. FAYRER, M.D., F.R.S.

THE important subject of the life history of this nematoid, and the part it plays in the production of disease, have recently been prominently brought forward, on behalf of Dr. Manson, of Amoy, by Mr. Coles at the Pathological, and by Dr. Cobbold at the Linnæan Society; and the claims to priority of discovery of former as well as of later investigators of the development, habitat, and effects produced by this hæmatozoon, have, as far as they are known, been clearly expounded by the latter gentleman, who has accorded the sanction of his high authority in attestation of the recent discoveries by Dr. Bancroft in Australia, and Dr. Lewis in Calcutta, of the sexually mature worm; and by Dr. Manson in China, of the part played by the mosquito, as an intermediary host, in the development of the larvæ, which, being deposited by the insect along with its ova in water, are thus conveyed into the human body, there to mature and disseminate their embryos in swarms throughout the blood of the victim, probably giving rise to hæmaturia, chyluria, lymph scrotum, or other form of elephantiasis; certain forms of hydrocele, and not improbably to a considerable proportion of morbid conditions—cachexiæ, nervous diseases, dysenteric and other affections, hitherto vaguely referred to malaria, but now, perhaps, to receive a new explanation.

The importance of these investigations is not limited merely to the natural history of a nematoid entozoon, for, if confirmed by further observation, questions of etiological and sanitary interest will arise out of them in regard to some forms of tropical disease hitherto ascribed to other causes. Some years ago, in describing a peculiar form of elephantiasis, I wrote:—"It will be very interesting to know if the filaria discovered by Mr. T. Lewis in India in the blood of those afflicted with chyluria also infects the blood of those affected by elephantiasis"; and it subsequently proved that such was the case. In a paper in THE LANCET, August 26th, 1876, describing Dr. Sonsino's discovery of filaria in the systemic blood of hæmaturia in Egypt, I also alluded to the probability of other forms of disease being due to a similar cause, and I have therefore, since then, watched the progress of these investigations with much interest.

Drs. Bancroft and Lewis have now identified the parent-worm, and Dr. Manson has traced the embryo through the mosquito to the water, and thence back to man, to repeat the round of genetic changes.

This will give a new direction to inquiry in regard to many questions of causation and prevention of disease, and we owe this advance in our knowledge to the patient work and scientific acumen of observers working under difficulties—away from books and means of reference and comparison, amid the press of various duties, and under disadvantages that are perhaps hardly sufficiently appreciated by those who work at home under more favourable conditions. It is to be hoped that the interest their work so far has excited will encourage them and others to persevere in researches which may lead to important results.

Disease of, so-called, malarious origin causes half the mortality in India, and a tremendous figure it is when summed up for the whole empire. It will be of no small advantage to be enabled to refer part of this mortality to a more definite source, and it will be of no slight importance to be able to indicate the sanitary measures that may reasonably be expected to remedy, or at all events to mitigate, the evil. We know how successfully sanitary science has fought its way until it has reduced mortality among soldiers in India from 70 to 20 in 1000. We know, also, how absolutely important are good drainage and pure water in the prevention of cholera and other forms of disease; and now, perhaps, we have received other indications which, if attended to, may still further reduce the death-figure, and, at any rate, throw light on the causation and means of prevention of certain forms, perhaps a large group, of diseases. For this we are indebted to the observers quoted by Dr. Cobbold, and in no small degree to Dr. Cobbold himself.

OBSERVATIONS,

MACROSCOPICAL AND MICROSCOPICAL,

ON

THE MECHANISM OF THE SPONTANEOUS ARRESTMENT OF BLEEDING FROM DIVIDED VESSELS.

BY T. WHARTON JONES, F.R.S., F.R.C.S.,

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(Concluded from p. 349.)

As to the external clot:—The blood, coagulating, as I have before said, adheres to the walls of the sheath within which the cut end of the artery has retracted. By successive deposits the sheath is at last filled with the coagulated blood, and the orifice of the artery thereby stopped up. The clot thus formed is of a conical shape, the base corresponding to the orifice of the artery, and consists of a large proportion of fibrin, the deposition of which was favoured by the irregular surface of the sheath, the fibres of the fibrin at the same time being interlaced with those of the cellular tissue. By this means the clot is retained in its place.

The irregularities of the surface of the sheath favour the formation of the external clot by offering points of contact for the deposition and retention of the coagulated fibrin. When an artery is torn across or subjected to torsion, the internal and middle coats are ruptured to some extent *within* the vessel, and form irregular projections into its interior. These favour the deposition and retention of the coagulating blood, so that a clot is formed within the end of the artery in a manner exactly similar to that in which the external clot is ordinarily formed within the sheath, and in a similar manner helps to stop the hæmorrhage in case the constriction of the artery is not sufficiently great to prevent hæmorrhage altogether.

A deposit of coagulum from the blood takes place also in cases in which, though the artery has not been completely torn across, the internal or both internal and middle coats have been ruptured. This can be demonstrated under the microscope in the arteries and veins in the web of the frog's foot or bat's wing. Thus if we make a bruising pressure with a blunt-pointed instrument over an artery of the frog's web, disposed under the microscope, a flocculent granular lymph entangling blood-corpuscles, especially colourless, is observed to be deposited from the blood within the vessel at the place, wholly or partially blocking it up. A portion of this deposit is every now and then seen to be detached and carried away by the *vis à tergo*, whereupon the stream of blood is re-established; but, an additional deposit taking place, the stream may again be stopped.

A clot formed within the end of an artery which has been torn across or subjected to torsion, and in which the internal and middle coats are ruptured to some extent within the mouth of the vessel, though internal, we shall see, is quite different from the true internal clot, which is an *effect*, not a *cause*, of the arrestment of hæmorrhage.

The general conditions contributing to the formation of an external clot are as follows:—With the loss of blood, fainting comes on; the flow of blood from the divided artery becomes, in consequence of the diminished force of the heart's action, less impetuous. At the same time there is a tendency to increasing constriction of the artery, and the blood that now flows more rapidly coagulates.

As to the internal clot:—The bleeding from a divided

artery being thus suppressed by retraction, and contraction of its ends aiding the accumulation of coagulated blood constituting the external clot, the condition is laid for the formation of an internal clot. The internal coagulum thus contributes nothing to the suppression of the hæmorrhage, its formation being contingent on that event. When hæmorrhage is stopped by the application of a ligature round the artery, the condition is equally laid for the formation of an internal clot, and one is accordingly formed. The internal clot occupies the interior of the artery from its mouth, where it is stopped by the external clot (or, in cases in which the hæmorrhage has been arrested, by tying the vessel from the place of the ligature), up to the origin of the large collateral branch, by which the stream of blood is carried off. In shape the internal clot is conical; its apex and body are free in the interior of the vessel; its base, which is at the mouth of the vessel, corresponds to the base of the external clot. Between the bases of the internal and external clots, however, an exudation of lymph from the now inflamed edges of the mouth of the artery is found to have taken place. This lymph exuded between the bases of the two clots—external and internal—constitutes what Dr. Jones called the middle or lymph clot. Of this middle or lymph clot I shall speak more particularly by and by.

To obtain an insight into the mode of formation of the internal clot, we must study it first in the small arteries of the web of the frog's foot as seen under the microscope. In the segment of the artery on the side of the wound next the heart, from the divided end up to the origin of the collateral branch by which the stream of blood passes off—which part, after the contraction excited by the section has ceased, usually continues dilated—there is, just within the mouth, a glomerulus of aggregated red corpuscles. Elsewhere the contained blood is seen to consist chiefly of liquor sanguinis with but a few corpuscles, chiefly colourless. By the impulse of the stream which passes off by the collateral branch this blood is kept in a state of oscillation rhythmically with the heart's action, as indicated by the backward and forward and eddylike movements of the corpuscles it contains. After a time a few corpuscles, red and colourless, are found accumulated on the same side of the vessel as that on which the stream is carried off by the collateral branch.

The segment of the artery below the wound, the stream of blood in which, being retrograde, is not carried off from the trunk by the collateral branches so freely as in the segment above the wound, becomes gorged with aggregated red corpuscles. From the mouth to the first branch by which the stream passes off the aggregated red corpuscles are stagnant. Between this stagnant aggregation of red corpuscles and the stream as it passes off there is a space filled with clear liquor sanguinis.

Within the cut ends of the arteries of the bat's wing I have observed similar accumulations of blood forming internal clots.

That the blood continues for some time liquid we can directly see in the frog's web under the microscope. That the blood in the end of a cut artery of the rabbit's ear also continues for some time fluid was evident from the circumstance that the vessel was seen sometimes to become empty, apparently in consequence of constriction of its calibre pressing out the blood. Eventually the blood thus collected within the divided ends of an artery, and cut off from the circulation, coagulates; but it is to be observed that the internal clot is not formed solely by the fibrin of the quantity of blood sufficient to fill the portion of the vessel between its mouth and the collateral branch by which the stream passes off, for that would constitute, after coagulation, but a very small flake. The internal clot, on the contrary, appears to result from *successive deposits* of fibrin from the stream of blood as it passes off by the collateral branch. We find indications of this in the stratified structure of the internal clot of large arteries.

The internal clot is composed of fibrin with numerous red corpuscles, at the base, on one side, and in the axis. On the surface of its body, and especially at the apex, it consists chiefly of fibrin with colourless corpuscles, but unmixed with red corpuscles.

The red central and base part of the clot is formed of the blood which was collected in the end of the artery at the time the bleeding stopped, now become coagulated with its red corpuscles aggregated. The colourless fibrinous part of the apex and sides is formed by the subsequent deposits of fibrin on the red central part, as on a nucleus, from the blood as it passes off in a stream above. Of this the superficial colourless part is in greater quantity the longer the standing of the clot.

I now come to speak of the middle or lymph clot and the process by which a divided artery is permanently closed. Here we have an interesting exemplification of the purposes served by the consolidation of the fibrin of exuded lymph, along with those served by the consolidation of the fibrin deposited direct from the blood. Inflammatory congestion of the arterial walls supervening on the injury, lymph is exuded from the *vasa vasorum* of the cut end of the artery so as to fill its mouth. This lymph intervenes, as before stated, between the base of the *external* clot and the base of the *internal* clot, and constitutes what Dr. Jones called the *middle* or *lymph* clot. He considered that by it alone the mouth of the divided artery becomes permanently closed. The experiments and microscopical observations of Dr. Zwicky, published at Zurich in 1845, have, however, shown that the internal clot—the fibrinous part of it, I mean—also contributes (by serving as a blastema in and out of which tissue is developed) to the subsequent permanent closure of the vessel when such takes place.

In the cut arteries of the web of the frog there is scarcely any special middle clot to be distinguished; but the web becomes opaque at and around the ends of the divided artery from deposit of lymph, which constitutes the material both for the primary closure of the mouth of the vessel and for the healing of the wound of the web.

In my essay on the state of the blood and the bloodvessels in inflammation (Guy's Hospital Reports, vol. vii., part 1, page 97), I described the mode in which reunion of a divided artery in the frog's web sometimes took place with re-establishment of the flow of blood. The wound of the web in which the artery was complicated became filled up with cells newly formed in the representative of the middle clot (not white blood-corpuscles), and by and by the blood in the cut end of the artery above the wound, by *vis à tergo*, cleared a passage through among the cells—an intercellular passage—into the artery below the wound.

In the case of arteries to which a ligature has been applied the lymph clot is exuded from the vasa vasorum of the walls of the vessel, now become inflamed in consequence of the lesion of the internal and middle coats occasioned by the ligature. With this lymph clot the base of the internal clot, which is, as I have mentioned, formed in such cases, is connected.

The internal clot or thrombus formed within ligatured arteries has been studied by Dr. Zwicky in reference to the question of the organisation of clots of blood, and, at the same time, in reference to the obliteration of the artery. He found that the red corpuscles of the blood, as was known before, do not become further organised, but that, on the contrary, as Mr. Hunter had already observed, they are broken up into granular masses, dissolved, and absorbed. Dr. Zwicky found, indeed, that the presence of red corpuscles, in any quantity, even interfered with the progress of the organisation of the fibrin.

In the course of the development of the fibrin into tissue, the fibrous texture it presented on first becoming coagulated disappears, and the fibrin is resolved into a homogeneous jelly-like elastic mass, which constitutes a blastema, in and out of which a development of nucleated fibre-cells takes place.

From the junction of the base of the internal clot with the lymph clot upwards, adhesions, as pointed out by the late Mr. Guthrie, may form between the clot and walls of the artery. New vessels are formed in the lymph clot, in the bands of adhesion between the walls of the vessel and the internal clot, as also in the interstices of the internal clot itself. Eventually the walls of the artery and the internal clot, together with the middle clot, are metamorphosed into a solid cord of cellular tissue—the walls of the artery—by atrophic degeneration, but the clots by the progressive development I have before explained.

The internal clot has been compared to the fibrin clot in aneurismal sacs. The two do resemble each other somewhat in respect to the mode in which they are deposited, but the aneurismal clots do not become organised. A thin lamina of an aneurismal clot, spread out on a glass plate, may, indeed, present an arborescent appearance, which has some resemblance to new-formed vessels. This is, however, not an example of organisation, but appears to depend on the aggregation of the red corpuscles of the deposited blood, and is similar to the vascular-like figures produced by the grouping together of red corpuscles, observed in thin layers of

coagulated blood, which has been extravasated on the surface of serous membranes.

I come, lastly, to speak of suppression of hæmorrhage from veins. When a vein of the rabbit's ear alone was cut across, blood appeared at the lips of the wound, but none actually flowed. On the farther side of the wound from the heart blood was seen accumulated in the vessel; on the side next the heart the vein appeared rather collapsed and empty. The absence of bleeding, or bleeding only to an inconsiderable amount, from a vein larger than the arteries operated on in the experiments I have related, is explicable (in the absence of marked contraction of the walls of the vessel producing constriction of its calibre) by the flow of blood in the vein being so much less impetuous than that in the artery, and thus permitting the coagulating blood to collect in the wound, and form an external clot at once. Here we may stop to observe more particularly on the bearing which the difference in coagulability between arterial and venous blood has on the suppression of hæmorrhage. The coagulation of arterial blood begins sooner than that of venous blood after escape from the vessel, and is sooner completed; the clot also is firmer. The importance of this is obvious. Thus, as it were to meet the greater impetuosity with which the blood issues from a divided artery than from a vein, we have two conditions on which the stoppage of hæmorrhage in the first instance depends operating to a much greater degree in the artery—viz., retraction and constriction of the mouths of the vessel, and the more rapid and firm coagulation of the arterial blood.

When a vein of the frog's web has been divided, neither retraction nor contraction is observed to take place; but the surrounding tissue appears to close in around the mouths of the vessel somewhat, but not to so great a degree as in the case of arteries. Blood may not flow, apparently owing to this closing in of the surrounding tissue, the little force with which the blood is propelled, and the remarkable readiness with which the stream finds another channel in consequence of the free anastomosis of the veins with each other. Bleeding is, however, observed to take place more frequently from a divided vein than from a divided artery of the frog's web; and it is seen to be first arrested by the coagulation of the blood in the wound forming an external clot which closes the mouth of the vessel. Between the cut end and the next considerable branch, there is, within either segment of the vein, an accumulation of blood as in the analogous part of a divided artery—forming an internal clot. This clot is composed of aggregated red corpuscles immediately within the mouth of the vein, then a mass of granular coagulated fibrin mixed with colourless and a few red corpuscles.

The arrestment of the bleeding from a divided vein, we thus see, takes place by means of an external clot in a somewhat similar manner to that from a divided artery.

The conditions which contribute to the stoppage of bleeding from an artery—namely, retraction and constriction of its mouth and the speedy and firm coagulation of the arterial blood—are commensurate with the force with which the blood is propelled in the artery. If in the case of veins those conditions operate in a much less degree, so also is the force with which the blood flows in veins very much less.

INFLUENZA IN EAST ANGLIA.

By PETER EADE, M.D. LOND., F.R.C.P.,
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DURING the past four or five weeks a wave of epidemic disease has been passing over this district. It has affected more or less a considerable proportion of the community, whether old or young, and has produced symptoms and effects which, though varying greatly in intensity, have been distinctly and manifestly of the same type throughout. This epidemic disorder has been regarded as "influenza," and in many of its features resembles the former epidemics to which this name has been applied; but it has differed from these in some particulars, and especially in the fact of the frontal oppression and the true catarrhal symptoms being generally less marked and pronounced. In many cases, it is true, "a bad cold" has been the most noticeable feature of the disorder; but, in a large proportion, cough, either dry and irritable or moister and with some expectoration—rarely abundant,—has been a more prominent symptom. In all the cases languor and depression have been much complained of; and there has frequently been present a peculiar damp, sodden, and perspiring condition of the skin, which has attracted the patients' attention, and which has either recurred several times in the day, or has been more or less present both by day and night for several consecutive days.

The invasion of the disease has usually been sudden, and marked by more or less of chilliness or shivering, soon followed by the catarrhal symptoms or the cough previously alluded to. In some cases one member of a family has had "a bad cold"; whilst the others, less severely affected, have only felt weak and perspiring, or have been merely teazed with a troublesome and irritating cough which has been slow to pass away, and whose persistence has been apparently causeless and inexplicable. The apparent duration of these "colds" has usually been about a fortnight, and they have in some cases disappeared rather suddenly, convalescence when once begun having gone on unexpectedly rapidly.

In the majority of cases the disease has passed harmlessly away, but not in all; for many children and elderly adults have, during the presence of the epidemic, succumbed to the bronchitis, the congestions of the lungs, and the pneumonias which have been largely prevalent, and which have doubtless been due to the same morbid atmospheric influence. The severest types of the disease were seen at its commencement a few weeks ago. It has lately—though more extensively diffused and often affecting whole households—become more mild, and would appear now to be gradually passing away.

It should be recorded that the season has been, as a whole, both damp and mild, and that the prevailing winds have been from the west. During this same period whooping-cough and false measles have been present in the district.

It is unnecessary to dwell minutely upon the other symptoms, since these are in broad outline like to those observed in other similar epidemics, and so ably described by Sir T. Watson; but I have thought it well to record the fact of the present existence of the disorder, and to note the slight peculiarities which have marked its passage through this district, as they have come under my observation. It has doubtless prevailed in a similar way in other districts of the country.

The treatment which has been found most appropriate has been, speaking generally, a supporting treatment. Nourishing broths and other light but nutritious foods have been necessary, and champagne or other fermented liquors have frequently been found useful. Sinapisms and hot applications to the chest, &c., have usually given some relief; and small doses of opium or morphia have often greatly comforted, and allayed the irritating cough. For the general symptoms, ammonia, with nitric or chloric ether or compound tincture of bark, or with expectorants, appeared well suited, and has usually afforded distinct relief to the feeling of general *malaise*.

Norwich.

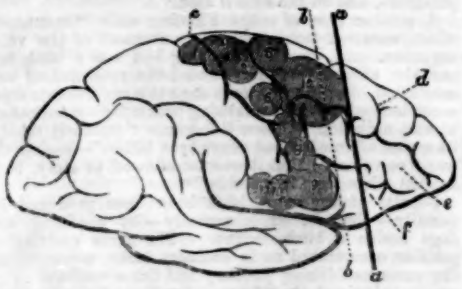
THE FUNCTIONS OF THE FRONTAL LOBES OF THE BRAIN, AS ILLUSTRATED BY A CASE OF INJURY.

By FREDERICK TREVES, M.R.C.S.

(Concluded from page 346.)

AT the post-mortem examination of the case narrated (made within three hours after death) the following conditions were observed:—The fracture of the frontal bone appeared as an oval hole, about an inch and a half in length in the vertical direction, and one inch in width at the widest point. The edges were clean cut, and no fresh fragments of bone were discovered. The dura mater was healthy, except the portion covering the frontal lobes, the anterior part of which had sloughed, and the remainder, as far as the right ascending frontal convolution, was thickened, soft, and somewhat injected. These changes occurred on the left side also, but to a less extent, being observed only over about the anterior third of the frontal lobes. The pia mater and arachnoid on the left side were normal, but over the entire convexity of the right cerebrum there was effusion of a puri-

form fluid throughout the whole subarachnoid space. The pia mater was, however, easily stripped off, except just in front. The base of the brain and cerebellum were normal. The longitudinal sinus was empty. A large portion of the left orbital plate had been removed, exposing the orbit; and a smaller portion of the right plate, opening up a large frontal sinus. On the left side a linear fracture extended across the orbital plate to near the tip of the lesser wing of the sphenoid, then, passing across the greater wing of that bone, it was directed between the foramen ovale and foramen spinosum to the petrous bone, terminating just over the tympanum. On the right side a linear fracture extended directly backwards (near to and parallel with the cribriform plate) to the optic foramen; from thence a small fissure ran transversely across the body of the sphenoid for a few lines; while the main line of fracture was continued over the greater wing of the sphenoid in exactly the same course, and with the same point of ending, as on the left side. The various cerebral nerves were dissected out at their points of exit from the skull, but gave evidence of no lesion of any kind. The meningeal arteries were intact, there being absolutely no intracranial hæmorrhage. Both tympana were free from blood, and the facial nerves, so far as their course could be followed in the petrous bone, were uninjured. The cerebellum was quite normal. About the anterior two-thirds (or a trifle less) of the three right frontal convolutions had been quite destroyed and discharged by the wound, up to a point marked by a dark line (*a*) in the accompanying diagram. Behind this the exposed surface was softened to the extent of about three or four lines, so as to allow of its being washed away by a stream of water. Immediately behind this softened portion (the posterior limit of which is marked by the dotted line, *b*) the brain-matter was marked by a narrow zone of puncta cruenta. These puncta did not extend quite so far back as the ascending frontal convolution. The grey matter over the posterior extremities of the three frontal convolutions was softened and of a leaden hue, but these changes did not appear to involve the ascending frontal convolution. On the left side similar morbid appearances existed, but to a much less extent, only about the anterior one-fourth or one-sixth of the frontal convolutions being lost. The grey matter of the posterior portions of the left frontal convolutions, as well as of the rest of the left cerebrum appeared normal. The white matter of the interior of the brain was universally anæmic; the ventricles contained no more than a normal amount of fluid; and the various ganglia, the pons, and the medulla were absolutely intact and uniformly anæmic. There was no injury of any other part of the body. An examination of the viscera was not allowed by the friends.



c, Fissure of Rolando.
d, *e*, *f*, Superior, middle, and inferior frontal convolution.

The interest of this case arises from the fact that the lesion encroached upon a portion of the cortex of the brain with which certain definite motor phenomena have been connected, mainly founded upon the direct results of recent experiments on animals by Dr. Ferrier and others. In the diagram a number of areas are marked out on the cortex of the brain just anterior to the fissure of Rolando. These are intended to denote certain portions of the cortex the electrical stimulation of which produces certain motor phenomena, and are placed according to the figures in Dr. Ferrier's admirable work on the Functions of the Brain. The situation of these centres in the human brain, Dr. Ferrier states, is only approximately indicated; their position being decided by the position of certain areas or centres on homologous portions of the monkey's brain, which centres have been defined and localised by actual experiment. The numbers are the same as those accompanying Dr. Ferrier's figures.

Now the effects of electrical irritation of these various centres in the monkey are stated by Dr. Ferrier to be as follows:—"12. Situated on the posterior half of the superior and middle frontal convolutions is the centre which, on irritation, produces, in monkeys, dogs, and jackals, the following effect: the eyes open widely, the pupils dilate, and head and eyes turn towards the opposite side. In one case stimulation of the frontal region in a monkey anterior to this area caused (1) movements of the eyeballs, sometimes laterally, sometimes upwards, but with no dilatation of pupil; (2) complex movements of thigh, leg, and foot; (3) movements of tail; (4) retraction with adduction of opposite arm; (5) extension forward of opposite arm and hand; (6) supination and flexion of forearm; (7) action of zygomatici, whereby angle of mouth is retracted and elevated; (8) elevation of ala of nose and upper lip, so as to expose canine teeth of opposite side; (9, 10) opening of mouth, with protrusion and retraction of tongue [in this case the movements are distinctly bilateral]; (11) retraction of opposite angle of mouth (platysma myoides in action)."

Although it would be unreasonable to urge that the various symptoms exhibited by the patient during the five and a half days that he survived the accident were due, either in part or in whole, to the above lesion of the frontal convolutions, still, considering the marked relation that some of the motor symptoms bore to the movements induced by the irritation of almost homologous portions of an animal's brain, a comparison between the pathological and the experimental lesions may not be without significance.

As regards the centre marked 12, the correspondence is perhaps slight; for although the patient's pupils were at no time so markedly contracted as might have been expected, yet they were never dilated, but retained, for the first day or so at least, a more or less normal size; the left or opposite pupil being invariably the larger when any difference occurred. The eyes when moved were moved laterally, and to the opposite side, but what movements of the head were noted were constantly to the same side. It may be of consequence to note that as soon as the swelling of the lids had subsided the eyes were kept constantly wide open, and were retained in that position until near the time of the patient's death, so as to evoke from the friends the frequent remark that he was wide awake.

As regards centres 2, 3, 4 (perhaps somewhat more removed from the seat of injury than other of the areas), no correspondence existed; the legs certainly were drawn up, but equally so, and the symptom can hardly be considered as of special significance.

Centre 5. Symptoms negative.

Centre 6. Before paralysis set in the left forearm was constantly retained in a flexed position, the palm resting on the abdomen, and although the hand was frequently placed in other postures by those around, it always in a short time assumed the position indicated. The total loss of power in the left arm subsequent to this peculiar muscular action would appear to be significant, especially as it remained quite motionless when the general convulsions occurred.

Centre 7. The action of the zygomatici was particularly well-marked, was limited to the left side, and, until general convulsions set in, were the only facial muscles affected, save the oral connexions of the platysma.

Centre 8. Symptoms negative.

Centres 9 and 10. The muscular actions stated to occur on stimulation of these centres were prominent in the present case. The mouth was kept constantly wide open, the lower jaw often moving spasmodically, but apparently affected only by the muscles beneath the bone (the depressors). The action was certainly bilateral. The tongue was alternately protruded and retracted, and this movement was apart from the up and down movements of the larynx and hyoid bone mentioned above. The tongue was protruded exactly in the middle line.

Centre 11. Retraction of the angle of the mouth and twitching of the entire platysma were among the first muscular symptoms noted, and were well-marked even after the action of the facial muscles had rendered the symptom less prominent.

The line of necrosis was not so perfectly regular as is represented in the diagram, and the destructive as well as the irritative action may have encroached more on some parts than on others. The symptoms throughout were mainly those that would be produced by irritation of the

cortex, with the exception of the centre marked 6, in which case peculiar movements of the forearm were, after a while, followed by complete loss of power in that limb, the arm remaining perfectly still even when general convulsions set in. The fact that the mouth was retained wide open during the convulsions may be of importance in sustaining the view that the source of many of the symptoms was local.

The olfactory bulb was entirely disorganised on the right side, and to a slight extent on the left side also. The disorganisation of the left bulb might have taken place after the test with ammonia was applied, or the right nostril might have been closed up, or the gas might have caused irritation of nerves other than those of special sense.

The fact is at least established that bilateral destruction of the antero-frontal region causes neither motor nor sensory paralysis.

Wirksworth, Derby.

THE ARTIFICIAL PRODUCTION OF HUMAN DISEASES IN THE LOWER ANIMALS.[1]

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DIRECTLY or indirectly, man is the means of producing a great amount and variety of disease in other animals. In ignorance or thoughtlessness, through superstition, prejudice, or cruelty, for his own selfish ends or to gratify his desire for knowledge, he does not hesitate to engender frequently fatal disease in the lower animals, and especially in those which are domestic and subservient immediately to his varied purposes. He does so, for instance, in the following circumstances:—

1. In the captivity of wild animals in menageries and zoological gardens, whereby they are subjected to a variety of unnatural and unhealthy influences, such as—
   - (*a*) Deficiency of exercise.
   - (*b*) Non-gratification of the sexual or other instincts.
   - (*c*) Deficient or improper food and drink.
   - (*d*) Deficient temperature and ventilation.
2. In the treatment of home pets, involving an artificial existence similar to that of menagerie captives.
3. In the management of the common domestic animals, such as the horse and cow, including utter inattention to sanitary arrangements in their stables and byres.
4. In the preparation of animals for the market, including—
   - (*a*) Over-driving.
   - (*b*) Deficiency of food and water.
   - (*c*) Exposure to sea-sickness and other exhaustive effects of travel.
5. In the breeding of stock, especially by "in-and-in" breeding.
6. In pursuit of his sports, including—
   - (*a*) Racing or chasing to the death.
   - (*b*) Inebriation as a practical joke.
7. Intoxication by means of alcohol or narcotics, for the purpose of capture.
8. Experiment by the pathologist, in order to a comparison with the diseases of man and to a better knowledge of the nature and mode of treatment of the latter.

These or other artificially produced diseases should, it appears to me, possess the highest interest, both to the medical profession and to the general public, in connexion with certain social questions that are frequently being discussed by the public press.

Thus, as regards *rabies* in the dog, cat, and other animals, it can be—and cannot too often and distinctly be—shown that man, in his stupidity, corporate or individual, not unfrequently produces the very disease he is so desirous of preventing or of stamping out. It is one of the many popular errors[2] connected with canine rabies—the belief that it always arises from the bite of a rabietic animal, the fact being that it is also generated *de novo* by a series of conditions which man has completely under control, which he himself indeed creates.

The question of general *insanity* in the lower animals—and especially of acute mania—is an equally important one; for popularly, as well as by both the medical and veterinary professions, all "mad" dogs or other animals are supposed to be simply rabietic, whereas rabies is only one form of animal insanity, and a comparatively rare form.[3]

Artificial *tuberculosis*, especially in the cow, has the most important bearing on the generation of scrofula in its various forms in the human subject, more particularly in infants and children, from the use of diseased milk and meat.

Again, the *vivisection* agitation opens up the question of the utility of the operations of experimental pathologists, especially in contrast with the other classes of artificial disease that have been alluded to—for instance, those which result from the gratification of man's love of "sport" so-called. A quarter of a century ago I was myself engaged in researches in experimental pathology, having for their object a better knowledge, in man as in other animals, of the whole natural history of (1) cholera;[4] (2) diarrhœa, dysentery, and other disorders allied to cholera;[5] and (3) the antagonism of poisons and medicines.[6] From that time onwards I have given much attention to the progress of research in several departments of experimental pathology; and it so happens that I have had special occasion during the last five years to study the preventable diseases produced by man in other animals, mainly by his inadvertence or stupidity, but also by his passion for sport. The result of a comparison of the different kinds of artificial disease produced by man in other animals leaves me in no doubt that those created by the experimental pathologist constitute but a tithe of those that are the fruit even of man's sports, field or otherwise.

As regards the artificial production of *rabies*—its generation *de novo*—the following opinions are deserving of note in relation to the current hydrophobia panic in London, Glasgow, and other of our great cities. A certain cross-bred spaniel five months and a half old "had not left its mother. It never went out, and it was naturally very quiet." When the mother became in rut, "the young dog, excited by the odour, made unsuccessful attempts to approach her. Its ardour was extreme, its agitation incessant, and its appetite became almost null." Three days afterwards, being asleep, "it wakened up from its torpor and flew at the man" who fed it. When taken to the infirmary of an eminent veterinary surgeon in Paris, its rabies was recognised "by the characteristic howling only. During the three succeeding days it refused all kinds of food." On the fourth it was paralysed, and on the fifth it died.[7]

A similar case of what Fleming calls "spontaneous" rabies occurred from "undue excitement of the venereal organism. ..... In the adjoining box was a bitch in rut, and the effluvia from her caused the most ardent veneric excitation. For nearly fifteen days this unfortunate creature—condemned to such tantalising proximity—manifested the utmost agitation." Then it became "furiously rabid, and its owner affirmed it had never been bitten"—seeing that it was "so valuable that it was not allowed to stray, but was kept in a loose box in a stable."[8]

Results of the same kind have been produced intentionally—that is, experimentally—by confining several dogs beside a bitch in rut. "The same exciting competition commenced as in ordinary cases, accompanied by the same maddening jealousy and fierce combats. ..... The results obtained in this way by Toppolin were so constant and decisive that he was perfectly convinced as to the effect of jealousy and rage, conjoined with a powerful sexual desire, in producing a rabid condition."[9] Nevertheless, Fleming very cautiously sums up: "There may be some foundation for the supposition that intense sexual excitement may produce rabies, though at present there are only probabilities in favour of it. ..... The bite of an irritated dog, or of one in rut, might become momentarily virulent and cause rabies";[10] and he cites an illustrative case. "Jealousy, excitement, irritation, and anger .....

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[1] Other remarks upon and illustrations of the same subject may be found in the following papers:—(1) "The Transmission of Disease between Man and the Lower Animals," Edinburgh Veterinary Review, July, 1858; (2) "Community of Disease in Man and other Animals," Brit. and For. Med.-Chir. Review, Jan., 1874; (3) "Madness in Animals," Journal of Mental Science, July, 1871.

[2] I regret to find that these mischievous errors, or many of them, are supported and propagated by the high authority of the veteran Sir Thomas Watson, in his paper on "Hydrophobia and Rabies," in the December number (1877) of the *Nineteenth Century*.

[3] Vide what I have said on this subject in my paper on "Madness in Animals" (already quoted).

[4] Edin. Med. and Surgical Journal, 1854; Gazette Hebdom. de Méd. et de Chirurgie, 1854; and Association Medical Journal, 1854.

[5] Association Medical Journal, 1855. [6] Ibid., 1854.

[7] Fleming: "Rabies," pp. 109-10. [8] Ibid., p. 110.

[9] Ibid., pp. 108-9. [10] Ibid., pp. 110 and 112.

consequent on several (males) competing for the same female, are sufficient, and even do occasion the appearance of rabies in them. ..... The incessant competition, the extreme excitement, and the savage fights among amorous dogs in pursuit of a female in rut have been decided upon as sufficient to *predispose* them to madness."[11]

But *predisposition* is not the disease itself, though it is of quite as great importance, because if it were more attended to there would necessarily be much less rabies. As illustrations of predisposition to, or of the predisposing causes of rabies, all keepers of dog pets should be made aware of the fact that "Dogs kept only for luxury are the most dangerous.....The dogs *de luxe* kept in apartments, petted, and abundantly fed, and whose venereal appetites are incompletely or never gratified," are the most liable to rabies; and, again, dogs "belonging to irritable or nervous breeds, or else dogs which, having been kept all their lives chained up, have become very vicious.....insufficiently exercised, and seldom allowed to gratify their sexual propensities," are specially predisposed.[12] "It is noteworthy," says a New York newspaper in 1874, "that in every instance in which persons bitten by mad dogs during the last six months in this city have died of hydrophobia, the dog inflicting the wound has been a household pet. The street[13] dogs have inoculated no one with hydrophobia, so far as is known. It is the house dogs of the male sex, who are overfed and forced to lead an unnatural life, who become mad and communicate hydrophobia."[14] In reference to similar occurrences in our own country, Youatt exclaims, "We pity, or almost detest, the folly of those by whom their favourites are indulged and spoiled, even more than their own children."[15] The latter clause, however, is surely unnecessary, inasmuch as pet dogs are almost invariably kept by women who have no children on whom to lavish their overflowing "maternal instinct." Further "excitement, anger, sexual irritability, terror, ... assist in the production of rabies."[16] The effect of mere confinement to a house was well exhibited in the case of a certain tamed wild cat, which never slept in a certain house. "We compelled her to do so once," says Miss Clara Rossiter, in her "Anecdotes of Pets," "and the poor creature was so ill we did not attempt to do it again." Confinement, in association with solitude, silence, and darkness, is an apt cause of certain forms of insanity, especially melancholia with panphobia. We are told moreover that "confinement is almost certain in many dogs to produce skin disease; and it predisposes young dogs to convulsive and rheumatic attacks."[17]

It would appear also that physical *pain*, however produced, is occasionally both a direct and predisposing cause of rabies. "Extreme pain or intense suffering," is credited with the production of rabies in such a case as the following:—A castrated animal, on its return home, "retired to a corner of the house, refusing all kinds of food." It became gradually "irritable and morose, threatening to bite the farm people it had previously been fond of." Then it attempted to "bite some cattle, and could not be driven back by its master's voice nor by threatenings with a stick." Subsequently it bit a horse and five cattle, all of which died of rabies. Fleming suggests that if mere pain could produce rabies, how comes it that the disease is so rare, while its alleged cause is so frequent?[18] This brings up as before the question of predisposition, of immediate as contrasted with remote causes, a question too wide, however, to be here or at present entered upon.

The really important practical matter is that certain influences or causes, be they remote or immediate, predisposing or exciting, conduce to the production of rabies in the dog and other animals; that the operation of these influences can easily be prevented by man, and that it should be prevented. In other words, just as rabies is, frequently at least, produced by man, it is equally, in certain cases, preventable by him. There is a grave responsibility, then, if its generation *de novo* or its propagation is not prevented.

"Above all things," says Fleming,[19] "dogs should not be needlessly excited or abused. ..... If it should happen that an excited dog bites anyone, the person who excited it should be held guilty of a legal offence," and, in point of fact, he is so by the Austrian and French, and should be equally so by the English law; for there would appear to be cases of latent rabies, where the disease is stimulated into full development, or where its dangerous symptoms are developed, only on or by man's interference. Thus we are told that fury, even in the rabietic dog, is usually due to provocation or excitement of a preventable kind.[20] Professor Saint-Cyr, of Lyons, mentions a dog whose rabidity was not suspected till "on its owner scolding it, it flew at and bit him." It subsequently proved that it "had employed itself pulling shavings about a joiner's shop for two days, and no attention had been paid to this singular but significant occupation,"[21] an occupation generally supposed by veterinarians to be illustrative of that morbid appetite which is one of the few diagnostic signs of rabies. A rabietic pig "could scarcely be made to move, even by beating; but if any white body was placed before it, such as a piece of paper tied to a long stick, it immediately sprang up in a furious state.....appearing to be very much agitated. Every time the experiment was made, the same effect was produced."[22]

Rabies has repeatedly been produced intentionally for experimental purposes by man; but it does not follow that the experimenters in such cases were physicians. More generally they have been veterinarians—authorities presumably competent to deal with such experiments both in their method and aim. In a guinea-pig artificially inoculated with man's saliva, the animal's "violence induced convulsions of his whole frame, and they might be produced at pleasure by dashing a little water at him."[23] Maupertius produced hydrophobia in the dog by subjecting it to the bite of an irritated scorpion, says Pierquin; but he pertinently puts the question whether an ordinary bite of the non-irritated animal would not have produced a similar result, and whether the result was really hydrophobia. He makes the suggestion in connexion with the fact that animal bites are fatal sometimes by tetanus or other diseases, and that irritation or passion may add to the malignity of a bite. "The dying bite of a beast of prey is always the worst," says Sir A. Alexander.[24]

(To be continued.)

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[11] Fleming: Rabies, p. 116.
[12] Ibid., p. 107.
[13] This is borne out by the experience of Constantinople, and other Eastern cities, in which street dogs abound, but in which nevertheless rabies and hydrophobia are unknown.
[14] As quoted in the North British Daily Mail (of Glasgow), July 31st, 1874.
[15] Work on The Dog, p. 146.
[16] Fleming: Rabies, p. 173.
[17] Article on "Rabies," British Medical Journal, July 11th, 1874, p. 36.
[18] Rabies, pp. 113-14.
[19] Ibid., p. 352.
[20] Fleming, Rabies, p. 229.
[21] Ibid., foot-note, p. 257.
[22] Youatt on the Dog, p. 149.
[23] As quoted in Anderson's *Lion and Elephant*, p. 148.

OVARIOTOMY PERFORMED ON THE ANTISEPTIC METHOD, THE PATIENT BEING IN A STATE OF PYREXIA; RECOVERY.

BY JOHN WILLIAMS, M.D.,
ASSISTANT OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

THE notes of the following case were taken by Mr. R. S. Miller, late obstetric physician's assistant.

Mrs. D——, who had had two children, was seen by Mr. Keele, of Highbury, in August, 1876. She complained of a severe pain in the left inguinal region; it had come on suddenly, and was greatly relieved by sedatives and hot applications. On examination the uterus was found somewhat enlarged, and a diagnosis of pregnancy was made. The abdomen grew rapidly until March, 1877, when Dr. Glover saw her in consultation with Mr. Keele. Pregnancy complicated by an ovarian tumour was diagnosed, and labour induced. A male child of six months was soon born, and the patient recovered well from the effects of the labour. Before delivery the abdomen measured fifty-two inches in circumference, after delivery forty-seven inches. The tumour grew rapidly, and on April 3rd she was tapped, when thirty pints of thick grumous fluid were drawn off. She rapidly improved, and at the end of May was able to walk out. The cyst, however, began to fill again, sickness set in and became very distressing, the temperature rose, and on Aug. 16th she was again tapped, when fifteen pints of thick grumous fluid were drawn off. Though relieved from the effects of pressure, she did not improve, for the sickness increased, the temperature continued high and once rose to 104°, she had much

pain, was losing flesh, and exhaustion was increasing; so on Sept. 13th she was taken into University College Hospital.

On admission, pulse was very feeble, 120 a minute, weak and irregular; respiration 50, shallow, with frequent sighing; temperature 102° F. Urine scanty, acid, depositing a large quantity of urates; contains no albumen or sugar. Abdomen large, pendulous; lower part of wall shining and œdematous.

On Sept. 15th the tumour was removed under carbolic-acid spray. All instruments, ligatures, &c., used were placed in a solution (one in forty) of carbolic acid, and the hands of all helping in the operation were washed in a similar solution. An incision from four to five inches long was made in the linea alba, beginning about an inch below the umbilicus. When the peritoneal cavity was opened a considerable quantity of ascitic fluid escaped. The tumour was found adherent to the abdominal wall in front and on the left side. The adhesions formed many loculi, which contained fluid, and most of them were readily torn through. The cyst was then tapped, but the contents were too thick and viscid to pass through the tube. An incision was made into it, the edges of which were kept outside the wound to prevent the contents entering the cavity of the abdomen. The solid parts of the tumour were then broken up by the hand, and the mass drawn out. One adhesion had to be ligatured. The tumour sprang from the left ovary. The pedicle was transfixed and tied in two halves by a strong hempen thread. The tumour was cut off, and the pedicle dropped into the pelvis. On introducing a sponge into the peritoneum it was found that it contained neither blood nor cyst-contents. The wound was closed by four deep carbolised silk sutures with intermediate superficial silver sutures; Lister's protective was then applied, with a large quantity of loose antiseptic gauze, and a pad of eight folds of gauze having a strip of waterproof between its outer layer. The abdomen having been bandaged, the patient was placed in bed.

She was permitted to take lithia-water, ice, barley-water, milk, and a little brandy-and-water in case of sickness. She vomited two or three times during the first three days. The morning following the operation the temperature was normal; pulse 85; respiration 28. The wound was dressed first on the fifth day after operation, and it was almost entirely healed. It was sweet, and no pus had formed. It was dressed again on the eighth day, when it was quite healed. The patient recovered without a bad symptom, and was discharged on the twentieth day after operation.

The tumour consisted of one large cyst containing a thick dirty-brown gelatinous fluid, and a mass, forming about two-fifths of the whole, composed of a number of cysts with thick semi-solid opalescent substance. The fluid removed, together with the ascitic fluid, amounted to two gallons.

ON THE USE OF THE O'BEIRNE TUBE IN OBSTRUCTION OF THE BOWELS.

BY J. STUART NAIRNE, L.F.P.S. GLASGOW.

AMONGST the means employed for affording relief in obstruction of the bowels are ranked a long flexible tube (O'Beirne's) and rectal bougies. I think a warning with regard to their use is much needed, as the cases in which they can give any beneficial result must be few and far between. So far as my own experience goes, as well as knowlege of cases where they have been used, they have never given any relief at all. Instead, however, of giving relief, there are various conditions of the bowel in which they are productive of the most serious consequences, and that not only in the hands of the inexperienced, but I will venture to say of the most experienced. The condition to which I refer particularly is that of stricture. Where a stricture occurs embracing the free surface of the bowel, it is quite an impossibility to pass a tube through the stricture. The bowel is certain to be ruptured. I have had lately under my care four cases of obstruction of the bowels. In two of them the tube was used. No relief was afforded in either case. In the last one I held a post-mortem examination, which disclosed the fact that the bowel below the stricture had been punctured; and to satisfy myself as to the *modus operandi* I made the following experiment. A subject being obtained, an artificial stricture was made at the end of the sigmoid flexure by tying a cord round the bowel, and the O'Beirne tube passed in. The point of the tube did not touch the stricture, but, travelling along the free border of the bowel, impinged at a point on the superior and slightly anterior surface perpendicular to the stricture, and carried that part of the bowel over with it. The tube being moved up and down a few times, as if adjusting or trying to get through the stricture, the external coat of the bowel gave way as a longitudinal split, and hernia of the inner coats took place. Hardly any pressure was exercised, and the only force really transmitted was that of the withdrawal and adjustment of the tube. Repetition of the experiment gave the same invariable result, and I am inclined to advocate that no tube or bougie longer than six inches be passed into the bowel.

Glasgow.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

MIDDLESEX HOSPITAL.

FRACTURE OF PELVIS FROM A FALL WHILST CLEANING WINDOWS; HEAD OF THE FEMUR DRIVEN THROUGH THE ACETABULUM, BUT NO FRACTURE OF FEMUR; DEATH; POST-MORTEM APPEARANCES.

(Under the care of Mr. GEORGE LAWSON).

IN connexion with the cases of fractured pelvis which were published in the "Mirror" of last week, this case is interesting as an example of a rather rare accident—namely, the driving of the head of the femur through the acetabulum.

John D——, aged twenty-one, was admitted into the Broderip ward, under the care of Mr. Lawson, on Feb. 16th, 1878, having just fallen from the second floor of a house, the windows of which he was cleaning, into the area, a height of about twenty feet. He was semi-conscious, could be roused by loud speaking, and greatly collapsed. The right foot was everted, but there was no apparent shortening of the thigh. The thigh could be partially flexed on the abdomen, but any attempt to move the hip-joint caused great pain. There was clearly no fracture of the thigh, but from the pain induced by any movement of the pelvis it was thought there was probably fracture of the pelvic bones. His urine was drawn off to ascertain that there was no injury to the bladder or urethra.

Feb. 17th.—The patient lies in a semi-conscious state, the slightest movement giving great pain about the pelvis, and he complains of pain in the abdomen. Towards evening the patient became delirious and very noisy. A side splint was applied to the right thigh, without any extension, to keep the parts in a state of rest, with a linseed-meal poultice over the abdomen, and an opiate given by the mouth.

From this date the patient gradually drifted from the noisy delirium into a semi-conscious state, in which he could answer questions. He complained constantly of the pain in the abdomen, which was tympanitic. His bowels acted without medicine, and there was no blood in the stools. Gradually he fell into a drowsy delirium, in which he died on Feb. 21st, five days from the receipt of the accident.

Post-mortem examination by Dr. COUPLAND. — Extreme bruising of cutaneous tissues over both hips, right buttock, right shoulder, and right side of the head. On dissection, a large amount of blood was found between the muscles around the hip-joint on the right side. The os innominatum was extensively fractured, the lines of fracture radiating from the centre of the acetabulum, the head of the femur being driven through it, so as to be visible from the inside of the pelvis between the fractured bones. The round ligament was not ruptured, nor was the capsular ligament torn. There was a large quantity of blood effused beneath the pelvic peritoneum around the bladder, but no rupture of any viscus, and no fracture of ribs or cranial bones. Viscera healthy.

LONDON HOSPITAL.

IRREDUCIBLE HERNIA RENDERED REDUCIBLE BY REST AND DIET.

(Under the care of Mr. MAUNDER.)

WE are indebted to Mr. E. J. Havens for the notes of the following case:—

J. H——, aged thirty-five, a tram-car conductor, was admitted on May 18th, 1877, with a scrotal hernia on the right side. There was impulse on coughing. Five years ago he ruptured himself in applying the brake of a car. The hernia was reduced, and a truss was worn. The bowel came down once between that occasion and this, but was properly reduced.

Immediately after admission the patient was placed under the influence of an anæsthetic, and taxis was employed in vain. When Mr. Maunder saw the case he advised rest in bed, with the thighs flexed and comfortably supported on a pillow; a crutch pad to support the scrotum with its contents in order to favour the return of blood by the omental veins; and the application of an ice-bag. The *rationale* of the treatment was explained to the patient. He was enjoined to eat and drink as little as he could possibly do with, so as to reduce himself, and promote absorption of the fat of the body generally, but especially that contained in the protruded omentum. A saline aperient was also given often.

In about ten days the tumour began to diminish in size, and was pushed up higher into the canal by a repetition of taxis, the intestine being now reduced. On June 12th the patient was again submitted to taxis, with partial success. He was getting tired of bed and of the treatment, but was encouraged to submit a little longer. On July 10th reduction was again tried, with success, and a truss was ordered.

In some remarks on this case, Mr. Maunder laid stress on the importance of trying all reasonable means to reduce a hernia, and said that he had learned this particular plan from a former surgeon to Guy's Hospital. He had lately had an equally successful case in private practice, but at the expenditure of much less time. Unfortunately the process was often a slow one, and patients frequently tired of the restriction placed on their diet.

LEEDS GENERAL INFIRMARY.

CASE OF PNEUMONIA; ENLARGEMENT OF GALL-BLADDER; PARACENTESIS; RECOVERY.

(Under the care of Dr. HEATON.)

FOR the following notes we are indebted to Dr. E. H. Jacob, resident physician.

P. S——, an Irishman, aged twenty-two, was admitted on August 2nd, 1877. He had enjoyed good health till six days before, when he fell into a quarry, some seven feet, injuring his right side. From that time he suffered from great pain and shortness of breath, and was unable to lie on the left side. He had very little sleep, and reported that for three days after the accident he was delirious at night. He had had no rigors.

On admission he was rather thin, pale, and anæmic; respiration 40; pulse 110; temperature 100·6° (in the evening 101°). He complained of pain in the abdomen and right side, worse on inspiration and at night. On the right side of the chest motion was impaired. There was dulness over the whole of the right lung, from the level of the third rib downwards in front, and from half way down the scapula behind. At the upper part of this area breathing was tubular with slight ægophony; below, breath-sounds, vocal resonance, and fremitus were very faint. The left lung and heart were healthy. The abdomen was hard and tender, especially over the liver, but there was no enlargement of the latter.

Aug. 6th.—Temperature has averaged 101° in the evening, 99·5° in the morning; pulse 120; respiration 40. He complained of great pain and swelling in his left side. There is a hard elastic swelling over the region of the liver, extending to the umbilicus, six inches below the edge of the ribs, but not extending beyond the middle line. He says his breathing is rather easier. Breathing is clear and tubular at base of the right lung. He cannot sit up, and can only lie on his right side. There is a slight tinge of icterus in his conjunctivæ. He vomited his food to-day. Bowels confined. He was ordered a saline mixture, with some opium, and a jalap purge. Extract of belladonna and glycerine to be applied to the abdomen.

8th.—Bowels open freely; motions of light colour.

9th.—The swelling now reaches the level of the anterior iliac spine. No more vomiting. No cough. There is free fluctuation over the abdominal swelling, and a wave obtainable by palpation from side to side.

13th.—A trocar was inserted in the most prominent part of the hepatic swelling, and five pints and a half of fluid evacuated. The liquid is of dark-green colour; sp. gr. 1002; solidifies into jelly on standing; contains much albumen, and gives bile reactions with nitric acid and sulphuric acid with sugar. He was ordered five grains of iodide of potassium with half a drachm of aromatic spirits of ammonia thrice daily.

14th.—Feels better. No swelling can be detected below the ribs. No change in the lung.

15th.—He had a slight rigor this morning. The swelling has reappeared, and extends to the umbilicus, with obscure fluctuation.

21st.—The swelling has further increased, and forms a prominent globular tumour, extending to the level of the iliac crest and two inches to the left of the middle line. Paracentesis was again performed, seven pints being drawn off. The fluid was of similar colour to that previously extracted, but contained glairy masses, the last pint especially, necessitating frequent clearing of the tube. Iodide of potassium omitted, and an effervescing saline ordered.

27th.—The swelling has again appeared, extending as far as the iliac crest, but not across the middle line to the left. General conditions of patient about the same; the temperature irregular, varying at night from 99° to 100°, and not apparently influenced by the tapping.

31st.—The swelling is now about the same dimensions as before the last tapping. Eight pints and a half were now drawn off, the fluid being of similar consistence, but of much lighter colour than the last. The temperature is now normal both night and morning.

Sept. 5th.—There is now dulness on percussion below the ribs on the right to about half an inch below the umbilicus, but little feeling of fulness or fluctuation. Still signs of consolidation of the lung from the fourth rib in front and the spine of the scapula behind. There is considerable tenderness over the liver, but he takes food fairly. His temperature is rising, averaging 101·5° at night.

11th.—The abdominal swelling is smaller. Bowels rather loose; motions light-coloured.

12th.—Motions of very dark colour to-day, but loose.

24th.—Temperature irregular, averaging 100° A.M., 101·5° P.M. Abdominal swelling about the same.

Oct. 6th.—Evening temperature averaging 102°; swelling rather larger.

16th.—The swelling is rather smaller, reaching from the level of the umbilicus on the right side in a curved direction up to the ensiform cartilage. There are the same signs of consolidation of the lung, but vocal fremitus is less perceptible. Patient is much emaciated and very short of breath. The temperature remains the same.

Nov. 3rd.—Ordered five grains of iodide of potassium, with half an ounce of concentrated syrup of sarsaparilla.

12th.—Dulness now extends only two inches below the ribs, and as far as two inches to the right of the median line.

16th.—Dulness hardly perceptible below the ribs. Evening temperature averages 101° F.

24th.—No dulness below the ribs. There is now fair resonance over the right lung as far as the angle of the scapula. Breathing is to a certain extent vesicular, but vocal resonance is much increased. Temperature now below 100° morning and evening.

Dec. 4th.—Feels pretty well. Can walk well. Still some signs of consolidation at the base of the right lung. In the abdomen, two inches to the right of middle line, a hard substance (? edge of liver) can be felt.

20th.—He has gained 6¼ lb. in the last week, and feels very well.

24th.—Had a rigor to-day. Temperature 103°.

26th.—Has been unwell for the last two days. Feels sick. Spits some muco-purulent matter, and there is some oozing of blood from the gums. There is general dulness over the lower half of the right lung behind, with obscurity of breath-sounds, vocal resonance, and fremitus. No abdominal dulness in front. Saline effervescent ordered.

Jan. 1st, 1878.—Temperature has averaged 102° since last note, but is now normal.

Feb. 1st.—Has steadily improved, and now feels pretty well. He has a little pain in both hypochondria on forced

inspiration. There is slight dulness and increased resistance on percussion at base of the right lung, and the breath-sounds and vocal resonance are fainter than on the opposite side, but the expansion is good. Sent to Cooksedge convalescent hospital.

Remarks.—Besides the uncommon occurrence of so great distension of the gall-bladder, the following points seem of special interest:—1. The little disturbance of the functions of the liver during the attack of perihepatitis and vesical inflammation. There was but very slight icterus, and the motions were light-coloured for a short time. 2. The little constitutional disturbance set up by the repeated tapping. 3. The complete recovery of the lung after three months' almost entire consolidation. How far the medicinal treatment affected the case it may be difficult exactly to estimate, but the patient dated his recovery from the time when he began to take large doses of sarsaparilla in the early part of November.

GULGONG PUBLIC HOSPITAL, N. S. WALES.

TWO CASES OF ANEURISM OF THE AORTA.

(Under the care of Dr. BARNARD.)

MRS. D——, aged forty-five, an emaciated, melancholy-looking woman, was admitted into the hospital on the 3rd April, 1877, suffering from bronchitis with urgent dyspnœa, metallic brassy cough, and great prostration generally.

Her history was as follows:—She had been very ill for twelve months or more, with cough, pain in left side, difficulty of breathing, loss of appetite, and general debility. Six months ago she was laid up for over a week with severe pain in the left side, and a most distressing cough, which nothing seemed to allay. She was attended by a medical man, who prescribed blistering, painting with iodine, and sedatives. This treatment relieved her greatly, so that she was enabled to get up and perform her household duties. Three months after this she was seized with another attack of coughing and spitting, urgent dyspnœa with wheezing, and pain in the right side as well as the left. She fancied she caught cold when this attack came on. She was relieved by treatment similar to that used before. A week before admission she caught cold again, when the symptoms returned as before, in an aggravated form. As she was too weak to come to and fro as an out-patient, she was admitted into the hospital, apparently in a dying state.

Upon admission she was found to be much emaciated, having no appetite, and refusing to take anything solid. A piece of bread even seemed troublesome to swallow. The tongue was clean; pulse 100, quick and feeble. Pain was felt in the left side, and the breathing was quick. She coughed very frequently, and the sound of the cough was very peculiar—quite different to a cough from any lung disease, although it somewhat resembled a cough from a large cavity in the lungs. It was a peculiar brassy, reverberating, deep, clanging noise, and was very distressing both for herself and her hearers. The expectoration was rather more than half a pint daily, and was principally white and frothy. Upon percussion the lungs appeared resonant enough, and breathing was fair, though somewhat obscured, especially over lower lobes. There were signs of pleurisy and bronchitis, but no evidences of organic lung disease. In fact, careful examination of chest by stethoscope elicited nothing remarkable. This fact seemed to negative aneurism, which was first diagnosed.

Four days after admission she was attacked with great pain in right side in the axillary line, and great dyspnœa with orthopnœa. Examination proved this pain to be due to pleurisy. Poultices, morphia, and blistering were successively tried with relief. She derived much benefit at times from a mixture containing tincture of lobelia; this allayed the coughing a great deal and seemed to give her ease. The cough occasionally would prevent her getting a good night's rest, and at times made her vomit her food. She lingered on in the hospital, sometimes getting better and sometimes falling back to her former condition. She died on June 30th rather suddenly. It appears that soon after commencing her dinner, which consisted of chicken broth and bread, she turned of a ghastly colour, was unable to draw her breath, and seemed as if she were choking. The wardsman put his finger into her mouth, but could feel no food sticking in her throat. She retched a little and brought up some food. The dyspnœa continued, and in about five minutes she breathed her last.

Autopsy, twenty-four hours after death.—The lungs were adherent to the costal pleuræ, especially on the right side. The lungs themselves were healthy, but deeply congested. There were no cavities, no consolidations, and no dilatation of bronchi—nothing apparently to indicate the cause of her sudden death and all the symptoms found during life. Upon turning aside and removing the lungs a soft rounded swelling could be seen at the side of the vertebræ, the bodies of which were considerably eaten away, high up in the thorax, opposite the position of the descending aorta. This proved to be a large aneurism of the aorta, filled with distinctly laminated layers of fibrine, of a dark-reddish colour, and tolerably firm in consistence. The channel of the aorta was rather narrowed here. Upon further examination this aneurismal lump was seen to press upon the œsophagus, almost entirely occluding this tube. Upon slitting up the œsophagus, the cause of the poor woman's sudden death was revealed in the presence of finely shredded particles of chicken, which had accumulated in the occluded portion of the gullet. The calibre of the œsophagus here was scarcely a quarter of an inch across.

Remarks.—There was no time to dissect for the recurrent laryngeal nerve, but no doubt this structure would have been found put on the stretch and otherwise pressed upon. The difficult deglutition, the cough, dyspnœa, orthopnœa, &c., all were now fully explained. The close compact manner in which the aneurism was packed away against the spine would also explain why it could not be detected. The heart was fatty and its walls thin; there was no valvular disease.

Dr. Barnard adds the following notes of the second case:—

At the beginning of this month he was requested by the coroner to make a post-mortem examination of the body of a man found dead at Coozal. Edward B——, aged sixty, died two days ago (18th July, 1877) in a hut in the bush, without having previous medical attendance. About three or four months ago he was last seen by a medical man, who painted his side with iodine, which greatly relieved a severe cough and the difficulty of breathing he had. He had been ailing with chest disease for a long time before this—his daughter said about three years. He had been gradually getting weaker and weaker for months past.

The body was much emaciated; the costal cartilages were extensively ossified. Upon removing the sternum, a large, rounded, dark-brown-coloured tumour was seen to lie immediately beneath the breast-bone, which it had commenced to eat away by pressure and absorption. This tumour was firm and about three inches and a half in diameter, and was situated at the junction of the ascending and transverse portions of the aorta. Upon cutting into it, firm layers of fibrine were laid visible. Upon further examination it proved to be an old-standing aneurism, filled with firm laminated fibrine, of the upper portion of the ascending and the transverse aorta, and to be fully as large as one's closed fist, and in weight nearly a pound and a half. This large tumour pressed upon all the surrounding parts to a great extent. The right lung was pressed flat against the ribs, to which it adhered by old pleuritic adhesions. The texture of this lung resembled a piece of muscle, and was flabby and airless. The left lung was healthy but somewhat congested. The heart was not unhealthy; its valves were perfectly good, and had not a sign of atheromatous patch upon them; but the ascending aorta, just above the sigmoid valves, was dilated, and seemed to be scarcely anything but a calcareous tube, the walls being very brittle. The rest of the aorta seemed in a similar condition. Lying in the aorta and running into the innominate and left carotid arteries was a blood-clot, evidently ante-mortem, as it was free from red corpuscles.

Remarks.—These two cases are interesting, as in neither was the aneurism distinctly made out. In the first there was certainly a suspicion that an aneurism was the cause of the distressing symptoms evinced, but even a strict examination did not elicit positive signs of the aneurismal tumour. In the other case, disease of the lungs was diagnosed, and to a certain extent this was true, but the real cause of disturbance to respiration was overlooked. In both cases, again, Nature had effected, one may say, a cure, as she had filled up the cavity of each aneurism with firm layers of fibrine. In the first case death may be said to have arisen from an accident; for if the unfortunate

woman had not attempted to swallow solid particles she probably would have still been alive. The symptoms during life of both, as far as could be gathered, were similar: the peculiar cough; the urgent dyspnœa, and even orthopnœa, without much corresponding disease of lungs or heart; the loss of appetite, and difficult deglutition, as in the first case; the quick, feeble pulse, and anxious expression of countenance; and one may also add the little influence remedies seem to have had in checking, let alone curing, the complaint. The principal remedies that seemed to have had some influence in giving relief were outward applications, as poultices, blisterings, and painting with tincture of iodine. The etherial tincture of lobelia appeared to ease the cough better even than morphia, but generally these two remedies were combined.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Analysis of 500 Cases of Operation for Stone in the Bladder of the Male Adult.

THE ordinary meeting of this Society was held on the 12th inst., Dr. C. West, President, in the chair. There was a large attendance of fellows and visitors, including several well-known provincial surgeons. The paper of the evening was by Sir Henry Thompson, and embraced a summary of his experience of cases of operation for stone in the bladder of the male adult up to January, 1877. The calculi from each of these 500 cases were exhibited. The meeting was prolonged beyond the usual time to allow of the continuance of the discussion on the paper. This was shared in by Mr. Cadge, Sir James Paget, Mr. Lund, and many others.

The following is an abstract of the paper, entitled "An Account of 500 Cases of Operation for Stone in the Bladder of the Male Adult, with remarks on the most important incidents which have occurred in connexion with them." By Sir HENRY THOMPSON, F.R.C.S. The 500 cases were in adult males—that is, of 20 years old and upwards, the great majority being from 50 to 70 years; the mean age was 61¼ years. They comprised Sir H. Thompson's entire and unselected work from the first case up to January, 1877. The published experience of Cheselden, Martineau, Brodie, and Fergusson was given. The sum of similar cases treated numbered 422. Of these 422, 69 were fatal, or 16½ per cent. —i. e., 1 in rather more than 6 cases. Of the 500 cases in question, 422 were by lithotrity, and 78 by lithotomy. The number of individuals operated upon was 420, several of the lithotrity patients being operated upon twice, a few three times. In all cases a considerable interval and evidence of fresh formation, mostly a newly descended uric-acid calculus, had existed. Small phosphatic concretions, although removed by lithotrity, had not been reckoned as stone in the bladder. The chemical constitution of the calculi was as follows:—Uric acid, 313; phosphatic, 99; mixed, 81; cystic oxide, 1; pure phosphate and carbonate of lime, 2; phosphatic calculi formed on foreign bodies, 4. The mortality, accepting almost any death occurring within six weeks of the operation, was as follows:—In 422 cases of lithotrity, 32 deaths, or 1 in 13 cases; in 78 cases of lithotomy, 29 deaths, or 1 in 2⅔ cases. Total, 500, with 61 deaths, or 1 death in 8⅛ cases. The causes of death, which were given in each case, were tabulated, compared, and contrasted in the two operations, with inferences thereupon. Accidents met with in operating by each mode were detailed and the manner in which they were dealt with. The general inference was arrived at that it is unwise to apply, as a rule, lithotrity to any stones above moderate size; and if any calculus is sufficiently large to require what is known as the fenestrated instrument, it is better to employ lithotomy. The author had not employed such an instrument during the last ten years.

The PRESIDENT, in asking the Society to return thanks to Sir H. Thompson for his paper, said that for his own part, with reference to such a subject as this, being little more than one of the outside public, he would venture to thank the author in their name for having been the means of mitigating so much human suffering, and of saving human life. He would add that the statement comprising such vast results and so wide a range was so clear, concise, and simple, that those least acquainted with the subject could understand it, and feel that they had gained a valuable practical addition to the sum of their knowledge.—Mr. CADGE (of Norwich) said that, living at a distance, and seldom having the privilege of hearing the communications read at these meetings, he might be allowed to comment briefly on the remarkable paper they had just heard. It was remarkable from more than one point of view. Five hundred cases of stone treated by one surgeon in twenty years shows (whether we approve or not) the growth and development of specialism, the division of labour in the profession. It was remarkable also for the successful results which appear to have been obtained. The paper invited discussion from a statistical point of view, and prompted the question, what is the curative value of lithotrity as compared with lithotomy? Admitting that statistics can only tell half the truth, are open to much fallacy, and can at best be taken with much reserve, still the time has come when the mortality of lithotrity may fairly be estimated. Sir H. Thompson's experience gives a mortality of 32 deaths out of 422 cases, or, including the 3 sudden deaths from heart disease which he has excluded, 35—i. e., 1 in 12½, or 8 per cent. Taking a wider basis, and putting together the experience of six surgeons (Brodie, Fergusson, Liston, Keith, Cadge, and Thompson), we have 892 cases, with 74 deaths, being 1 in 12, or 8 per cent., which may fairly be taken to be the immediate death-rate of lithotrity, reckoned according to our English habit. As to lithotomy, Sir H. Thompson has stated the death-rate in the adult to be 20 per cent., or 1 in 5; but this is scarcely a fair comparison, for the average age of lithotrity patients is about sixty, and nine-tenths are above fifty. Taking the lithotomy cases above the age of fifty from Mr. Crosse's tables of the Norwich Hospital, before the introduction of lithotrity, the average age is about sixty, the mortality 31 per cent., or 1 in 3⅓. Thus, then, of all persons above fifty submitted to lithotomy, 31 per cent. die, while only 8 per cent. of those submitted to lithotrity are fatal. This certainly presents lithotrity as immeasurably superior to lithotomy, so far as the immediate danger to life is concerned; but it must be qualified. The weight and size of the stone are important factors in estimating the danger of any operation, and it is almost certain that the size and weight of stones are vastly greater in lithotomy than in lithotrity. Still, admitting that lithotrity ought to be less fatal in its results than lithotomy, it would appear that in Sir H. Thompson's experience of the two operations put together, the effect of lithotrity has been to reduce the mortality of all cases over fifty from 31 to 12 per cent. Mr. Cadge said that his own practice tallied closely with that of the author, not indeed in numbers. It amounted to 220 operations in all, of which 134 were by lithotomy, and 86 by lithotrity. Of the lithotomy cases, 104 were in adults, and 30 below twenty years. Of the adult cases, 20 per cent. died: of the 86 lithotrity cases, 8 died, or 1 in 10¾. Passing to the question of recurrence after stone operations, Mr. Cadge said that recurrence after lithotomy is very rare. Crosse, in 700 operations, could only find 12, and he adds that the chief cause is the leaving of a fragment at the first operation. Mr. Cadge had seen very few himself, and, as Sir H. Thompson made no reference to it, he presumed that in his 78 cases there was no second operation. After lithotrity, on the other hand, recurrence is by no means uncommon. Sir H. Thompson must have had 60 recurrences in 422 cases. [Sir H. THOMPSON: No, about 40 or 50 individuals, for in some of the cases there were two, or even three, recurrences.] Mr. Cadge said that, at any rate, this fact of recurrence is one of the serious defects of lithotrity, and is due in the large majority of cases to minute portions having been overlooked. Another serious defect is the cystitis, and the continued vesical irritability and phosphatic deposit not unfrequently left after lithotrity. Sir H. Thompson has described this as unavoidable, and as the price paid for greater security to life which lithotrity affords; and he thinks it is due to the injury done to the mucous membrane by sharp fragments of stone and by continued instrumentation, and also to chronic retention of urine, which is apt to come on during lithotrity in old people. A more frequent cause, however, is the sacculated condition of bladder so frequently produced by prostatic enlargement. A calculus descending from

the kidney into such a bladder is not passed, owing to the obstruction to the outflow by the enlarged prostate, but augments there. Lithotrity is resorted to, some of the fragments hide themselves in the recesses of the mucous membrane, and either set up acute inflammation which extends to the peritoneum and quickly ends fatally, or, more frequently, the bulk of the stone is removed, the patient is much improved, but a fragment or two secrete themselves in the sacs and produce chronic cystitis, encysted stone, and phosphatic deposit. It is the most frequent cause of those "scores of cases" which Sir H. Thompson has mentioned of cystitis and phosphatic deposit in old people. Mr. Cadge held that stones of purely bladder origin are extremely rare, and that almost all these cases are the result of fragments left after lithotrity, and are therefore instances of recurrence of stone. Thus then, he concluded, it would appear that after all operations for stone, besides the two lists of cured and dead, there is a third, comprising those who neither die nor recover; that this list is much larger after lithotrity than after lithotomy, and it may even be thought by some surgeons almost to counterbalance the greater security to life which lithotrity undoubtedly affords. For himself, he could only say that, having no partisan feeling for either operation, and being as ready to do one as the other, every additional year's experience convinced him that, notwithstanding all its drawbacks, lithotrity, in careful hands and judiciously applied, is capable of saving many lives, and is an enormous boon to suffering humanity.—Mr. DONALD NAPIER briefly urged upon surgeons the importance of directing attention to the early diagnosis and detection of stone. It was a reproach to surgical art that so many cases should not be detected until they required operations of serious magnitude for their removal.—Mr. WEST (of Birmingham) said that, coming from the neighbourhood of South Staffordshire—a district were much stone prevails,—he had collected statistics from five hospitals—viz., Birmingham General, Queen's Hospital, Dudley, West Bromwich, and Wolverhampton, and found that in three years there had been 108 cases of lithotomy, of whom the majority were children. The results in 81 of these cases were 74 recoveries to 7 deaths. He had further found that out of 139 cases at the Wolvernampton and Staffordshire Infirmary the mean mortality was 1 in 12·14, for cases under forty years 1 in 16·2, and between forty and eighty 1 in 11·5. In certain districts children were the chief sufferers, in others adults; and he believed that many of the latter came up to London to be operated on. The cases of lithotrity, as a rule, did well, if the stone was early dealt with. As to lithotomy, many surgeons in his district preferred the median operation—e.g., the late Mr. Allarton and Mr. Pemberton; but the speaker, though thinking it suitable for children, or in cases where the stone was of small size, did not think it good for adults.—Mr. MACNAMARA said that the circumstances under which he had operated for stone were so different from those of Sir H. Thompson that it would be useless to adduce statistics for purposes of comparison. He referred to his practice in the N.W. provinces of India, where the number of cases of stone is very large indeed. Lithotomy had been the operation he had almost invariably performed, and he was glad to hear Sir H. Thompson say that in his last hundred cases he had reverted more to that operation than hitherto since the introduction of lithotrity. When he (the speaker) first went to India, he went as a pupil of Sir W. Fergusson's, and followed him with regard to the manner of incision, the smallness of the same, and its subsequent dilatation. But experience had taught him that a free incision was far safer and attended with less injury to surrounding parts; for it allowed of the extraction of the stone without any contusion or tearing of the tissues. With the same end in view, he was in the habit of first crushing the stone, if of a large size, and then performing lithotomy. He had also learnt the absolute necessity of preparing the patient for the operation, and he used to devote two or three weeks to this.—Sir J. FAYRER did not intend to say anything with reference to his own experience; but he wished to put in a claim on behalf of the native professor of surgery at Calcutta, who was now an old man, and whose experience of lithotomy had been large. He held in his hand a book written by this gentleman, which he hoped Sir H. Thompson would accept. In it would be found details of 248 cases of lithotomy, with 17 deaths. These operations were performed in the North-West provinces of India, and showed far better results than those in Bengal, and especially Calcutta, where the hospitals are rife with septicæmia and pyæmia.—Sir JAMES PAGET added his congratulations to those already expressed to Sir H. Thompson for the very brilliant results of his practice he had brought before them. He thought this occasion was a fair opportunity for inquiring into the relative values of lithotrity and lithotomy. Mr. Cadge had given his experience in this matter; and for himself, although his experience was less, he must confess to a general feeling in favour of lithotomy over lithotrity. The main ground for this preference was well expressed by Mr. Cadge in his remarks as to the long list of those who neither die nor recover after lithotrity. With respect to deaths directly attributable to the operation, Sir James thought that such should be included, even after an interval of twelve months, if the fatal issue were the result of a cystitis induced originally by the operation. A comparison of the two operations should be made with a full consideration of the incomplete and unsatisfactory results of lithotrity, often with months and years of suffering, and sometimes with recurrence of the stone. Then when to this be added the fact that at Sir Henry Thompson's hands the operation had received almost every improvement it could well have—compared with those of the present day Civiale's instruments are rough and unwieldy,—he thought that the operation was now performed under the best conditions possible, and that it was doubtful if we could look for its further improvement for some time to come. But there was scope for further improvement in lithotomy to ensure better results, especially in the after-treatment of cases. It does not admit of antiseptic treatment, but we recognised in the present day conditions of erysipelas and cellulitis as sources of danger after the operation, conditions misinterpreted in the past as "peritonitis after lithotomy," or "urinary infiltration," with no reference to their septic origin. The aim of after-treatment was definitely directed to prevent such conditions arising. Again, in past times, the operation would be undertaken on patients the state of whose liver and kidneys would now be regarded as contra-indicating it. Taking all these circumstances into consideration, he doubted if the mortality from lithotomy at the present day would be found so much larger than that after lithotrity; and, for his own part, were he to begin an active surgical life again, he would begin with lithotomy, and reserve for lithotrity only those few cases in which the calculus could be got rid of in two or three sittings. He felt sure that the mortality from lithotomy could be reduced by one-half.—Mr. TEEVAN said that, out of 82 cases of stone, of whom 67 were adults, he had performed lithotrity in 42. Being thus a firm supporter of lithotrity, he admitted that it will sometimes lamentably fail. But lithotomy may lead to fistulæ, to sterility, and he had met with 8 cases of recurrence after that operation. In cases where lithotrity failed he urged the adoption of cystotomy, as proposed by Dr. Gouley of New York.—Mr. LUND (Manchester) said that he had frequently asked himself why the wound, after lithotomy, so rarely took on septic characters, and he believed this to be due to the fact that it was a wound which was a beautiful example of the irrigation of wounds, and that by a fluid, supplied by nature, containing saline matter. Coming from within the body, it was not contaminated by those septic materials which would start putrefaction, whereas simple water introduced from without would contain such germs. Sloughing rarely occurred unless the tissues had been bruised in the extraction of the stone.—Mr. HOLMES believed that if Mr. Lund examined the fluid in question he would find that nature also supplies bacteria in it. The explanation was rather that the wound was well drained.—Dr. BROADBENT was also about to suggest that in a lithotomy wound accumulation of materials is almost impossible.—Mr. SPENCER WELLS noticed that a large number of the fatal cases in Sir H. Thompson's tables were attributed to cystitis. This could not be due entirely to violence done to the bladder, but to decomposition of the urine, probably by the introduction of bacteria with the instruments or with the water injected. Injections of antiseptic solutions might remove the causes of this cystitis. In his own experience of cases where repeated catheterisation was necessary he had found such precautions essential. With regard to the remark in the paper, that it was unlikely that a wound should be made into the back of the bladder in lithotomy, Mr. Wells said that, when a student, he remembered Mr. Tyrrell, at St. Thomas's Hospital, impressing on them, at a post-mortem examination in a fatal case of peritonitis from this cause, never to use a sharp-pointed knife in the operation, as he had done in that case. Mr. Wells knew also of

another case in which, from the same cause, the same untoward result ensued.—Mr. COULSON referred to three kinds of difficulty occasionally met with in using the lithotrite. In one case, unable to withdraw the instrument, he had to empty the blades through an incision in the perineum; in another case, the screw becoming broken, the stone had to be shaken out of the blades by sharp concussion of the handle; and the third accident was that referred to by Sir Henry Thompson, of fragments preventing the withdrawal of the instrument. Lithotrity had best results with a small stone and a healthy bladder. — Mr. T. SMITH said that when a stone got jammed between the blades of a lithotrite, the simplest way to detach it was to pass the finger into the rectum and push it out from the blades. — Mr. MAUNDER said that it was a proud and enviable position for an individual surgeon to come before the profession with an experience of no less than 500 cases of stone. While he heartily congratulated Sir Henry Thompson on this fact, he questioned (specialism having been alluded to) how far it was in the interest of the public and the profession that the vast majority of such cases should drift into the hands of any one man. This was more important than might at first appear, for under such circumstances how can a general hospital surgeon teach the rising generation of students in this particular department of surgery.—Sir HENRY THOMPSON thanked the Fellows for the patient and courteous attention they had given to the paper, and especially those who had come from a distance, and had given the results of their great experience, which he had listened to with pleasure and with instruction. He would commence by remarking that the relations between lithotomy and lithotrity were in no way antagonistic; they were not two rival systems, although the late appearance of one, as compared with the venerated antiquity of the other, obtained for each its partisans, who had occupied, so to speak, formerly two hostile camps. The real fact was that they were complementary to each other—allies, not enemies. Lithotrity was the handmaid of lithotomy, and each did work to which the other was incompetent, and in this view only could their respective merits be estimated. He would allude to what had fallen from Sir J. Paget, who, among those present, had perhaps most strongly declared for lithotomy; yet even Sir James thought lithotrity applicable to all those calculi which might be disposed of in two sittings. Well, that was a distinct position. The only question relative to it was one of degree; was the line to be drawn there, or was it to be drawn a little further in favour of the crushing operation? He thought lithotrity was still preferable where the stone might be crushed at three, or at most four sittings. Beyond that he was not, as a rule, prepared to go, and at that point he should mostly prefer to cut. But then this introduced a very important subject. He agreed with Mr. Napier that the real want was the early discovery of stone, and this it had been a leading object of his life to teach. Every calculus ought to be found when it was of that size for which the two sittings would suffice to crush. Very rarely indeed was it not associated with symptoms which clearly showed its presence. Every intelligent medical man ought to suspect its presence in that early stage, and find it. He confessed that many were not so found, that in many cases in which he operated its presence had not been suspected. But that was by no means always, or indeed often, the fault of the medical man. The patient himself was often mainly to blame, and he was very anxious, in nine cases out of ten, not to be pronounced the subject of stone; and thus he would go on month after month shirking the discovery he dreaded, and deceiving himself and his medical man, so as to avoid the necessary examination. Then as to the question of the recurrence of stone, it was not fair, nay more, it was not true, that the recurrence was due in all cases to the operation of lithotrity. For example, when a uric-acid stone reappeared some years after an operation for crushing, no one could for a moment suppose that this proceeding could be held accountable for the new product. When phosphatic calculus followed soon after a uric-acid stone, the former might sometimes be due to a remaining fragment, or to irritation of the bladder. But here was an example lying before him of three consecutively formed uric-acid calculi, and a fourth phosphatic, each one of large size, all produced by one patient, with some years intervening between each. These three uric-acid stones at least must have appeared, no matter which operation had been applied. What happened when lithotomy was the only operation? and what happened in the cases of diseased bladders, which now lived to discredit lithotrity? Why the patient in either case often succumbed to the cutting operation, and did not live to produce a third or even a fourth stone. Something had been said about his reverting to lithotomy in the last hundred of the cases. This was not exactly the fact. It is true that in the later portion he had been tending to draw the line a little more in that direction, and he thought it was wise not to overtax the applicability of the crushing operation, but to cut rather than crush for those cases which were doubtful in relation to size and other conditions. With regard to the several accidents which previous speakers had met with, it might be relied on that these occurred for the most part when the attempt was made to apply the lithotrite to stones which were too large or too hard, and which ought to have been removed by cutting. With respect to Mr. Spencer Wells's hints about carbolic acid in all injections, and in relation to the cleaning of instruments, it had long been his practice to employ it. He once more thanked the fellows for their kind appreciation of his attempt to deal with this large subject.

CLINICAL SOCIETY OF LONDON.

Unilateral Atrophy, with Muscular Spasm.—Aneurism of Subclavian and Axillary Artery.

THE ordinary meeting of this Society was held on the 8th inst., Mr. G. Callender, President, in the chair. There was a good attendance of members, and both the cases discussed were of considerable interest. Mr. Hulke raised a discussion on the important subject of the constitutional treatment of aneurism, and it was evident, from the modifications in the plans adopted, and various opinions expressed, by the different speakers, that this is a good field for clinical work, and one which promises to be fruitful in the best results. A case analogous to Mr. Hulke's in its subsequent history is recorded in THE LANCET for July 28th, 1877, by Mr. O. Pemberton, where, after apparent cure of an inguinal aneurism, a gradual enlargement of the solid sac occurred.

Dr. F. TAYLOR exhibited a woman, aged twenty-two, a needlewoman, who was the subject of Unilateral Atrophy, with Muscular Spasm (Athetosis?). The patient had been for some years affected with violent tonic spasms of the muscle of the left arm and leg. The exact date of the commencement of the disease was uncertain; but it was probably in the later period of childhood. She then had some kind of febrile disorder, and during convalescence first noticed twitchings in the left biceps muscles. She suffered no inconvenience for some little time, but it gradually developed to its present condition. The muscles of the arm and shoulder on the left side were greatly hypertrophied, but the limb itself was shorter than its fellow, while the side of the chest was also smaller than the right side. Sitting or standing, she commonly held the left arm firmly to the side, the left fingers often grasping the other hand tightly. Any attempt to move the hand or arm was accompanied by violent contractions of the muscles of the whole arm, but of the extensors chiefly, so that the arm was fixed in a straight position; but the fingers were partly flexed, partly straightened. This extension was not brought about suddenly, but quite slowly and deliberately. The spasm continued as long as the arm remained extended. If, however, she attempted to flex the arm, the extensor muscles shortly relaxed, she brought the elbow to a right angle, and all the contractions subsided. The toes were drawn down towards the sole of the foot by a similar condition of the muscles of the posterior tibial region; and walking was in consequence very painful to her. The contractions themselves caused her much pain, constantly recurred, apparently spontaneously, and frequently woke her during the night. The muscles of the affected side responded to galvanism and faradisation, but required somewhat stronger currents than the healthy muscles. There was no anæsthesia. She had obtained some relief from the spasms under bromide of potassium and the application of the continuous current. Dr. Taylor said there was no doubt unilateral atrophy, which was probably due to a cerebral lesion, in early life, interfering with function, and so retarding

growth. The more interesting question was as to the nature and connexions of the spasmodic movements. Comparing them with those noticed by Dr. Hammond in his cases of athetosis, Dr. Taylor observed that the spontaneous irregular movements of the fingers described in Dr. Hammond's first case were not present here; but that between the second case of athetosis and the present one there was a sufficiently close resemblance. If not admissible as a case of athetosis, it would have to be included under the wider head of spastic contracture.—The PRESIDENT asked if Dr. Taylor was quite assured of the *bona fides* of his patient, and that the curious spasms were not voluntary.—Dr. TAYLOR replied that he entertained no doubt on this point; and, looking to the close analogy the case presented with others that have occurred in quite young children, where such voluntary movements are out of the question, and with a case mentioned by Dr. Gowers, he saw no reason to doubt the reality of the symptoms.—Mr. BARWELL had been led to study in a special manner muscular movements, and was therefore interested in the case. He regarded the left arm as truly hypertrophied, and looked upon the shortening of the bones as due to union of the epiphyses at a too early age. He had not seen any case of hypertrophy among the many examples of infantile paralysis with spasm that had come under his notice, but, on the contrary, atrophy which was most marked in the muscles most affected functionally.—Mr. HULKE explained that this was a case of contraction, and not contracture, as there was no permanent shortening, but the power of full extension was present between the spasmodic seizures.

Mr. HULKE read notes of a case of Large Aneurism of the Left Subclavian and Axillary Artery treated by Rest and a very restricted Diet. A French-polisher, aged thirty-six, but much older in appearance, addicted to drink, after suffering from pains in the left shoulder and arm, supposed to be rheumatic, during two months, became aware of a swelling at the root of his neck on the left side, for which he went into King's College Hospital. Dissatisfied with what was there done for him, he left that hospital, and five months after the beginning of his illness entered the Middlesex Hospital, 28th March, 1877. At this time he had a large aneurismal tumour filling the axilla and implicating also the third, second, and presumably, to some extent, also the first part of the left subclavian artery; and he suffered great pain down the arm and over the shoulder-blade. He was kept in bed, and enjoined to keep perfectly still—not even to sit up or to move off the bed for any purpose,—and he was put on a very limited non-stimulating diet. This was followed by rapid mitigation of the pain, by decrease of the aneurism and its obstruction by clot. He was discharged for disorderly conduct in June, at which time the axillary portion of the sac had shrunken to the size of an acorn, and was quite impervious, and the cervical part was very small, and felt very firm. It was thought that a slight pulsation of this part might be communicated. He afterwards entered Charing-cross Hospital, where, Mr. Hulke learned, doubts were entertained of the nature of the affection. This Mr. Hulke took to be confirmatory of the permanence of the consolidation and occurrence of a cure. The encouragement the case afforded for the trial of a modified Valsalva's method in aneurism, where the ordinary direct surgical methods were not applicable, induced Mr. Hulke to submit the case to the consideration of the Clinical Society.—The PRESIDENT had had a woman under his care in whom he had used a similar treatment, but he had experienced great difficulty in getting her to submit to it continuously; she frequently broke down, and at length discharged herself; whilst under the treatment, however, she experienced considerable benefit. From his experience he was led to regard this as a very valuable method of treatment in internal aneurisms, but in what are commonly called external aneurisms there were other such successful methods that he had not had occasion to employ it. He added that it would possibly surprise some members of the Society to hear that in all his experience at St. Bartholomew's Hospital he had only once found it desirable to apply a ligature for external aneurism; in all other cases he had succeeded in his treatment by other means.—Mr. BARWELL stated that after the patient left Middlesex Hospital he was admitted into Charing-cross Hospital, under the care of Mr. Canton, and he had several opportunities of seeing him. The man had then a tumour emerging from under the trapezius muscle, which extended forwards to and over the clavicle; the surface was uneven, as if from glandular enlargements or nodular growth, and there was no pulsation in it, but the line of pulsation across the surface, mentioned by Mr. Hulke, was to be perceived. After a time he was discharged from the hospital, but returned on January 8th, when there was slight pulsation to be detected in the tumour when the man was at rest, but if he took slight exertion this would entirely disappear for about ten minutes. He attributed this to the movement of the fascia lifting the tumour off the subjacent artery. Without doubting the accuracy of Mr. Hulke's diagnosis, he could not regard the tumour he had himself seen as aneurismal, but looked upon it as either a glandular or malignant growth, occurring in the site of a cured aneurism. He did not remember to have read or heard of a case of a consolidated aneurism undergoing enlargement; the reverse process always took place.—Mr. GANT mentioned that last year he had under his care in hospital a case of subclavian aneurism, in which he first tried the treatment of rest and restricted diet, but without benefit; he then bandaged the limb up to the shoulder, and employed distal compression, and, as that was unavailing, applied proximal compression, but again ineffectually. He then twice used galvano-puncture, each time introducing three or four insulated needles; there was some temporary benefit, but it soon disappeared, and the tumour enlarged rapidly. At last, in the summer, Mr. Rose ligatured the subclavian artery in its third part, and the man died from secondary hæmorrhage in three or four days. From very rapid decomposition setting in, no autopsy was made.—Dr. SILVER had seen Mr. Hulke's patient in Charing-cross Hospital, and was able to state that the cure was so perfect that it was then quite impossible to say that it was, or ever had been, an aneurismal tumour.—Mr. HAYWARD had under observation a case showing the value of rest and restricted diet in external aneurism; it was a carotid aneurism low down in the neck of an old man. It was impossible to apply pressure efficiently, and he was treated by rest in bed, and was allowed eight to ten ounces of solid food with 12 oz. of liquids; the privation of fluid was the only difficulty experienced. The tumour became smaller, firmer, and pulsated less forcibly; but, as so often occurs, when the treatment was discontinued the improvement was lost, but was again witnessed on recommencing the treatment. Last summer he attended, with Mr. Holmes, a medical man suffering from thoracic aortic aneurism, who experienced manifest improvement from this treatment, which, however, did not persist when it was discontinued, and the disease eventually proved fatal.—Dr. DOUGLAS POWELL asked if any sphygmographic tracings had been taken, as they might throw light upon the diagnosis. He wished to know why Mr. Hulke had allowed his patient to drink water *ad lib.*, for he was under the impression that it was most important to limit the fluid taken. And why was bread given instead of more nitrogenous food? It was needful to remember that these cases were ultimately cured by the organisation of laminated coagulum, which might undergo fatty change, and the effect of the deprivation of nitrogenous food upon the general nutrition was therefore most important. He was treating a case of aortic aneurism by allowing three-quarters of a pint of fluid and a restricted animal diet.—Mr. MAUNDER did not think it necessary to adopt Mr. Harwell's supposition; the case might be explained by regarding the tumour as the result of a small rupture of the aneurism, with slow leaking, and the production of a large mass of fibrin outside, which prevented pulsation being detected; he remembered having seen two such cases.—Dr. MAHOMED did not think that the sphygmograph would throw any light upon the diagnosis of a cured aneurism. One very important character of the aneurismal pulse was delay, which was difficult to estimate by the tracing; but he mentioned that by the application of a miniature tambour over the heart Dr. B. Sanderson was able to obtain simultaneous tracings of the pulse and heart's impulse, and he thought this would be of considerable service in the diagnosis of aneurism.—Dr. BURNEY YEO asked whether Mr. Maunder thought that the aneurism had ruptured after its cure, and Mr. MAUNDER replied in the negative.—Dr. BARCLAY related two cases, one of interest as regards diagnosis, the other as regards treatment. Many years ago a man was in St. George's Hospital for a large right subclavian aneurism extending down into the chest. It was cured, and when the patient was afterwards in St. Bartholomew's Hospital it was considered that he had a malignant tumour, and had not had an aneurism. But, on the patient's death from phthisis, the right side of the chest was found to be completely filled with

an enormous old laminated clot. A year ago he had a case of abdominal aneurism, not aortic, which he completely cured by enforcing rest, and giving a full diet of solid food, but restricting to the utmost the fluids taken. The man had good digestive powers, and did well; but he had found that in the great number of these cases the digestion was bad and soon got upset; the patients began to waste, and then there was no chance of a good result.—Dr. IRVINE wished to know what was the opinion of members of the Society on the use of iodide of potassium for aneurism. He had used it in several cases with the most marked benefit, and that even in out-patients of a hospital who were following their usual employment, and in whom, therefore, the improvement must fairly be attributed to the drug. He gave it in doses of from ten to thirty grains three times a day.—Mr. MORRANT BAKER hoped Mr. Hulke would state his opinion of the tumour as he saw it on the previous day. He agreed with Mr. Maunder in the explanation of the case, and stated that some years ago he had a case of aneurism which appeared to consolidate under treatment, but proved fatal from rupture into the pleura, and it was then found that there had been a small leak in the sac through which blood had flowed and coagulated over the sac, obscuring the signs of the disease.—Dr. ANDREW had strong faith in Mr. Tufnell's treatment for internal aneurism, for it was the only plan by which he had seen such cases really cured, and it was the best for obtaining great relief; but he thought it was an exaggeration to say that 95 per cent. of the cases could be cured, and it should also be remembered that the treatment was dangerous — it required both mental strength and constitutional vigour. He had seen two deaths under it—one from rupture, in all probability due to irregularity of diet; the other from a slow pneumonia. The diet should be nutritious but scanty, 10 ounces of meat, bread and butter, and 8 ounces of fluid, including milk and wine. He preferred to put the patients on the minimum diet at once, rather than gradually.—Mr. HULKE in reply stated that sphygmographic tracings had been taken twice, but had been unfortunately mislaid. He had not limited the amount of fluid, because he found it so much easier to continue the treatment where drink was allowed. He considered the gluten in the bread and the casein of the milk quite sufficient nitrogenous food. He could not express a definite opinion on the case from his recent casual examination, but he would say that in all cases of ruptured aneurism that had come under his observation there had been ecchymoses, which was entirely absent here. He had seen more than one case of burst aneurism where pulsation and thrill were present. His experience of iodide of potassium was not good enough to lead him to use it now. A small bleeding will sometimes relieve the intense pain from an aneurism.—The PRESIDENT stated that he had found it useful to have four ounces of the fluid put aside and frozen—ice went further than an equal quantity of water.

Dr. SILVER showed a Brain and Spinal Cord removed the same afternoon from a case of diabetes.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Molluscum Simplex; Removal of Astragali, and of portions of Tarsal Arch in Talipes.

THE ordinary meeting of this Society was held on the 11th inst., Mr. Erasmus Wilson, F.R.S., President, in the chair. A vote of thanks to the retiring President (Dr. Buchanan) was proposed by Mr. Adams, seconded by Mr. Bryant, and carried unanimously. This was followed by a brief address from the new President, who thanked the Society for the honour done him in electing him to the chair, and who promised to spare no exertion in making the coming session as profitable in good work as the past.

The PRESIDENT then brought forward a case of Molluscum Simplex in a man thirty-nine years of age, in whom, when eleven years old, the affection began as a few scattered pimples. It now occupied the skin of nearly the whole body, the regions most affected being the trunk, the outside of the arms, the forehead, and scalp; the parts least involved being the pudendal region and the upper and inner portions of the thighs. The eruption consisted in a number of small tumours, varying in size from a marble to a pea, some pedunculated and pendulous; the smaller pinkish and soft; the larger less prominent, more deeply seated, and denser in texture. There were tubercles also on the buccal mucous membrane, and notably on the palate. Mr. Wilson remarked that a more complete case could scarcely be met with, representing as it did the growth of twenty-eight years. His parents were living, aged seventy-two and seventy-three respectively; and they, with their other ten children, all enjoyed good health.

Mr. LUND, of Manchester, brought forward a case of Removal of both Astragali, in a case of severe Double Talipes. The patient, seven years of age, was said to have been born with the deformity—double talipes equino-varus,—and when six months of age tenotomy was practised, and subsequently he had worn instruments. He came under Mr. Lund's care in January, 1872, and attempts were made under chloroform to break down the adhesions, the chief obstacle being the partial dislocation of the astragalus. In May, 1877, Mr. Lund removed each astragalus. An incision about an inch and a half in length was made over the head of the left astragalus, and when the bone was fully exposed an attempt was made to raise it by means of a gouge, in doing which a thin piece of the cup of the scaphoid and a slice of the inner malleolus were detached. To complete the dislodgment, a small strong curved hook with a cutting edge in its concavity was used as a lever, and, by passing it between the bones, the interosseous band was cut through, and this being done, the astragalus was easily removed. The right foot was similarly operated on, the cutting-hook only being used. Antiseptic principles were followed, and the wound healed by the thirty-eighth day. The after-treatment consisted in the use of elastic bands, to abduct the foot and keep the external border raised. At the end of September he was supplied with a pair of Dr. Sayre's club-foot shoes. The boy was shown to the Society, and there was seen to be considerable power of flexion at the ankle, and he was able to walk with ease. Mr. Lund advocated this operation for cases of unmanageable talipes, where tenotomy and instrumentation had been tried and failed.—Mr. W. ADAMS looked upon the case as one of great interest, the only defect being a little excess in the arch of the foot and slight contraction of the Achilles tendon, which might be remedied by its division or extension.

Mr. R. DAVY read a paper on "Subdivision of the Tarsal Arch for Confirmed and Intractable Talipes." He stated that his practice had been based on many experiments, the natural outcome of the operation performed by the late Mr. Solly in 1854. He had now the records of seven cases—viz., three in which the cuboid or both cuboids had been removed; three in which a wedge-shaped piece of the tarsal arch had been taken away for talipes equino-varus; and one in which a wedge had been excised for persistent talipes equinus. *Talipes Equino-varus:*—1. Boy, aged fifteen, January 27th, 1874: left cuboid removed; recovery in seven weeks. March 1st, 1874: right cuboid removed; recovery in nine weeks. 2. Boy, aged fourteen, January 18th, 1875: right cuboid removed; recovery in ten weeks; result imperfect. 3. Boy, aged nine, January 26th, 1875: both cuboids cut out at one sitting; recovery in three months. 4. Boy, aged six, March 28th, 1876: removal of wedge of tarsal arch; recovery in ten weeks. 5. Boy, aged twelve, November 14th, 1876: right tarsal arch divided; recovery in six weeks. January 16th, 1877: left tarsal arch divided; recovery in six weeks. 6. Girl, aged one year four months, March 5th, 1878: removal of portion of tarsal arch; progressing favourably. *Talipes Equinus:*—7. November 20th, 1877: removal of wedge-shaped block of tarsus. Dec. 5th, 1877: death from septicæmia. Mr. Davy said his method of operating had been fully described, and insisted strongly that the operation should be limited to inveterate cases, which had not been amenable to milder treatment. Mr. Davies-Colley, Mr. Thomas Smith, and Professor John Wood, had each of them operated most successfully in such cases.—Mr. MAUNDER thought that in certain cases an operation involving the removal of bone was necessary when tenotomy and instrumentation had failed. He preferred Mr. Lund's operation to Mr. Davy's, which involves the division of important structures in the arch of the foot.—Mr. DAVIES-COLLEY had removed the cuboid and adjacent bones in a V-shaped piece. He operated on both feet at the same time. In ten weeks the boy could walk, and eventually was able to run. In Mr. Lund's case there must have been a great gap to be filled up by fibrous tissue,

which would require a considerable time.—Mr. OWEN did not think the result of Mr. Davy's operation very happy. It was hardly necessary in the case of the child sixteen months old; and in some of the other cases Syme's operation would have been useful. Had Mr. Lund tried extension under chloroform in his operation?—Mr. BRYANT said there was a certain number of cases in which, tenotomy having failed, some other operation was necessary. Mr. Davies-Colley's case was unsurpassed, but he was rather disappointed with Mr. Davy's case in which the cuboid was removed. When the varus is worse than the equinus, Mr. Davies-Colley's operation was preferable; but when the equinus predominates, then Mr. Lund's.—Mr. ROYES BELL mentioned a case of double equino-varus which Mr. Wood had treated in the ordinary way by tenotomy. One foot did well, but in the other he had to remove a wedge-shaped piece of bone.—The PRESIDENT thought these cases well illustrated the progress of the art of surgery. We are not contented with what was formerly claimed as success.—Mr. LUND, in reply, said that he had endeavoured to get movement under chloroform before proceeding to operate, but had failed in doing so.—Mr. DAVY agreed with Mr. Bryant, that his case was not so great a success as he could have wished.

Reviews and Notices of Books.

Experimental Researches in Pure, Applied, and Physical Chemistry. By E. FRANKLAND, Ph.D., D.C.L., F.R.S. pp. 1047. London: Van Voorst.

IT is impossible to take up this bulky volume without a feeling of astonishment at the very large amount of original work that Professor Frankland has found time to accomplish in the midst of his routine work at Owens College, and more recently at the School of Mines. We have here no less than sixty-four separate memoirs, some of which have an important bearing on medical subjects, and we are glad to meet with them in a collected form, as several are now difficult to obtain, though they still constitute valuable bases for physiological discussion, and for the improvement of the hygienic condition of the people.

We have but little to say in regard to the various papers on pure chemistry. The first treats of the system of chemical notation used throughout the work, and, though written ten years ago, may still be read with interest, especially by those who in their younger days learnt what chemistry they know on one or other of the fleeting systems that are now almost entirely obsolete. Even now the nomenclature of the science of chemistry is terribly cumbrous. Professor Frankland, however, states that on the system he uses and advocates students arrive at the same point in their curriculum in about two-thirds of the time necessary under the older systems. This, with the immediately following memoirs, are of too technical a character to interest any who are not skilled chemists, though some, as the "transformation of cyanogen into oxatyl," and the "synthetical researches on organo-metallic bodies," led to the establishment of the doctrine of the molecule, as distinguished from the atom, whilst others exhibited in a very clear manner the mode of synthesis of various organic compounds—a synthesis that was actually effected by proceeding on purely theoretical grounds.

Nearly 150 pages are devoted to the consideration of water, which is dealt with under the heads of Drinking-water and its Analysis, the Development of Fungi in Potable Water, and the Softening of Hard Water, with the effects of the transmission of potable water through mains and service-pipes. Speaking of potable waters, Professor Frankland states that though carefully-collected rain-water contains less total solid impurity than any other, the organic contamination exceeds that of water from springs and deep wells, a fact that would scarcely have been anticipated. When such water is collected from the roofs of houses and stored in underground tanks, it often becomes polluted with excrementitious matters to a dangerous extent, and should always be regarded with suspicion. Upland surface-water, obtained from high and uncultivated ground, and allowed to subside in lakes and reservoirs, is generally of good quality; but if the land be cultivated, it is polluted with manure, and should never be used without efficient filtering. In regard to river-water, a large proportion of the running waters of England and Scotland are either actually dangerous or are rapidly becoming so, and he elsewhere remarks that no river in England is of sufficient length to purify its waters spontaneously if they have once become contaminated with sewage. He considers the best water for dietetic purposes to be spring and deep well waters, as they usually contain but little organic matter, are bright, sparkling, palatable, and wholesome, neither becoming warm in summer nor freezing in winter. Such waters ought not to contain more than one-millionth of organic carbon, or ·3 part in one million of organic nitrogen. It is noteworthy that the most efficient artificial filtration leaves much organic matter in suspension, and by no means removes the possibility of the propagation of typhoid and other disease. He strongly recommends the abandonment of the Thames as a water-supply for London on this ground.

In another section of the work we have the whole account of the gradual improvements that have been made in the purification of sewage and its application to economical purposes. These inquiries originated in the extremely offensive condition into which the Thames had passed in the course of the summer of 1859, a state well remembered by all old Londoners when travelling by river, which was almost impossible. At this time, polluted by a thousand drains, with feculent matter floating on the surface, the "silver Thames" of our poets flowed down a black and decomposing stream, and rendered the administration of justice impossible, unless the outer air was admitted to the close interior of the courts through cloths wetted with solution of chloride of lime. In 1865 a Royal Commission was appointed, which, after producing three Blue-books, died a natural death, and was succeeded by another, in which Professor Frankland took part, in 1868. The effects of the joint labours of these two commissions soon began to make themselves felt; and, though still much remains to be done, the contrast between the Thames as it was then and is now is sufficiently gratifying. Professor Frankland found that the more formidable polluting ingredients in foul waters are organic matters in solution, and that all chemical processes, or processes of precipitation, remove little more than the comparatively innocuous matters in suspension, leaving the real source of nuisance—the organic matter in solution—almost untouched. On the other hand, he found that foul water which had passed over or through land became effectually purified, the offending matters, both in suspension and solution, being to a great extent removed. In this lay the germ of all that has since been done in the application of sewage to agriculture. We have not space, however, to follow this subject further.

Amongst the miscellaneous work here published, Professor Frankland describes a method by which a liquid of the same composition as human milk can be easily prepared from cow's milk, and which he states saved the life, and thoroughly nourished, one of his own children for the year during which he consumed it. Human milk is sweeter, but contains less casein and salts than cow's milk; the butter is about equal in quantity. To convert, so to speak, cow's milk into human milk, or, in other words, to give it approximately the same composition, the following plan may be adopted, which we abstract, as it may prove useful to those who have not the opportunity of seeing the original. Allow one-third of a pint of new milk to stand for about twelve

hours, remove the cream, and add it to two-thirds of a pint of new milk as fresh from the cow as possible. Into the one-third of a pint of blue milk left after abstraction of the cream, put a piece of rennet one inch square. Set the vessel in warm water till the milk is fully curdled, which requires from five to fifteen minutes, the rennet being removed as soon as curdling commences, and put into an egg-cup for future use, as it can be employed daily for a month or two. Break up the curd thoroughly, and separate the whole of the whey, which should be rapidly heated to boiling, when a little more casein separates, and may be removed by straining; 110 grains of powdered milk is to be dissolved in this hot whey and the sweetened fluid added to the two-thirds of a pint of new milk.

Another chapter, which is exceedingly interesting, though well known to every physiologist, treats of the origin of muscular power. This chapter is preceded by a translation of Fick and Wislicenus' original memoir on the metamorphosis of tissue during muscular exertion, illustrated by the changes occurring in mounting the Faulhorn, which produced so complete a change of opinion upon that subject. Though the results of this experiment scarcely allowed room for doubting the real source of muscular power, Professor Frankland thought it advisable to ascertain by calorimetrical determination the amount of potential energy locked up in muscle, and its chief products of oxidation—urea, uric acid, and hippuric acid; and it need hardly be added his results fully confirmed Fick and Wislicenus' conclusions, that the force they expended in the ascent of the Faulhorn was chiefly derived, not, as was formerly considered, from the oxidation of the muscles or albuminous constituents of the blood, but from the oxidation of non-nitrogenous bodies.

The papers on Climate, the Estimation of the Intensity of Solar Light, and on Crookes's Radiometer, will be read with interest.

Altogether the work is a valuable one, and is a very satisfactory result of thirty years' labour. It is exceedingly well got up by Mr. Van Voorst.

Rough Notes on Human Osteology. By I. C. ROY, M.B., Assistant-Surgeon to the Bulrampore Hospital, and Professor of Anatomy and Midwifery in the Bulrampore Medical School, Lucknow.

WE have so many excellent descriptions of the bones already, that we are a little surprised to read that there are no "text-books on the subject available for students at the commencement of their study." But, be this as it may, we feel sure that students will welcome this little book. It is what it professes to be, "notes," such notes as a student might take down at lecture. We have no elaborate descriptions, and only one illustration; so that it can only be used as an aid to, and not as a substitute for, the study of the bones themselves. The notes are well arranged, brief, but clear. We have found them full, and, on the whole, very accurate; but there are a few points to which we might take exception. For example, we have the mass of fat at the bottom of the acetabulum spoken of as the "Haversian *gland*"; and the iliacus and psoas, as they pass under Poupart's ligament, are called the "united *tendon* of two muscles." The part of the pubis that enters into the acetabulum, which is usually spoken of as one of the rami, is here called the body—an alteration which we cannot commend.

The Life and Letters of Lord Macaulay. By his Nephew, GEORGE OTTO TREVELYAN, M.P. New Edition. Two Vols. London: Longmans, Green, & Co. 1878.

WHEN first published, about eighteen months ago, Mr. Trevelyan's memoir of his illustrious relative took the reading world by storm. Indeed, it may be said with truth that this biography is one of the best that has appeared for many years. That is saying much in days when biographies abound and are so widely read. The great merit of the book, and perhaps the main cause of its success, lies in the fact that its subject tells his own tale—in his letters and his journal—so pleasingly and so well as to leave the editor but little to do, beyond skilfully arranging the correspondence and fitting in the details of this busy life. Lord Macaulay's life was devoted to literature; but we imagine that few knew how deep that devotion was, or how extensive his knowledge, until these volumes appeared. Aided by a memory almost unequalled, his diligence in exploring mines of literary knowledge almost unknown to his contemporaries was as great as his industry in expounding the fruits so acquired in the production of an Edinburgh article or a chapter of the history. Macaulay's fame as a politician, and even that portion of his political career spent in India, is as nothing compared with his literary fame. The manner in which he made for himself a position in the literary history of this country may be learnt in these volumes, which we are pleased to find appearing in a form capable of circulation amongst the thousands who already know the man through his works.

The Past and Present Treatment of Intestinal Obstructions. By HUGH OWEN THOMAS. London: H. K. Lewis. 1877.

THE writer of this essay has evidently been actuated by a very laudable desire to turn the current of opinion back from the frequently too meddlesome treatment of cases of intestinal obstruction in vogue to the simpler, and, as he holds, the safer plan of continued administration of opiates and restricted diet, advocated by Sydenham. Now, there can be no doubt that he has much reason on his side; but—he will pardon us for saying so—he has also much unreason, for although we have carefully perused these pages, we fail to find any serious attempt made at discrimination between the different forms of intestinal occlusion, and we think even the writer will acknowledge that to pursue the same line of treatment by "rest" in all cases may lead to most disastrous results. Hence there is a curious admixture of rational and empirical therapeutics throughout the book—which, however, should do some good. The author appears to use acupuncture for tympanitic distension of the bowels with the greatest freedom and fearlessness, and he advocates gastro-enterotomy as a *dernier ressort*. We wish, however, that he had stated his arguments less combatively, more clearly, and more in accordance with the modern spirit, which is, to base the treatment of a disease upon a knowledge of its pathology.

The Climate of the Undercliff tested by its Effects. By T. M. WILLIAMSON, M.D. London: Spottiswoode and Co. 1877.

THIS is a sensible *brochure*, in which the author does not repel the reader by attempting to prove too much, but gives us a few facts as to the progress of patients suffering from chronic lung disease treated in the National Hospital at Ventnor. His observations relate to 536 patients, and extend over three years, and the following are the conclusions arrived at:—1. The majority of cases of phthisis may resort to the Undercliff with a fair prospect of undergoing definite improvement. In cases of inflammatory origin, and which are not too far advanced, actual progress towards recovery may be looked for. ..... Ordinary hæmoptysis is no contra-indication, but the climate is not a "suitable one in the true hæmorrhagic phthisis, nor perhaps in fibroid phthisis with prominent symptoms." 2. Asthmatics have a fair chance of doing well. 3. The climate is good for most cases of chronic bronchitis, and (4) for patients recovering from pleurisy and empyema.

THE LANCET.

LONDON: SATURDAY, MARCH 16, 1878.

THE Government have at the present moment an opportunity of doing a very useful piece of work in the way of reforming the examinations for licensing persons to practise medicine and surgery in the United Kingdom. This examination is essentially a State affair, and as such it should be cheap—that is, it should cost little to the person to be examined; it should cost the same in each division of the kingdom; it should include all the branches of the healing art—Medicine, Surgery, and Midwifery; it should be thoroughly good and sound, not fanciful nor transcendental, but such as only capable students can pass. A mere compulsory conjunction of the nineteen existing bodies will not secure the fulfilment of these conditions. The result will be a hotch-potch that will be very costly, very complicated, and very unlikely to work well. If the Government designs, as doubtless it does and must, to abolish the licensing function of all the existing bodies, acting individually, it should create a simple and efficient examining board in each division of the kingdom, the cost of which shall be so slight that the licentiates after passing it shall have money enough left to pay for a degree or the fellowship of a college.

The difficulty lies in the fact that the Government has to take into consultation in this matter chiefly the General Medical Council, which of all corporations (for it is a corporation) is the one most needing reform. It is the Council of Medical Education, and yet until last year it never seriously considered the state and methods of medical education. It was only then induced to do so by the rejections at the Primary Medical Examinations being so numerous as to constitute a scandal and a national evil. The Council is made up very largely of the representatives of educating bodies that are naturally wedded to traditional modes of teaching which are not altogether applicable to the teaching of medicine in its present form. The Council is deficient in members familiar with general practice, and yet it exists for the creation of good general practitioners, in whose efficiency the public is largely interested. The Government must naturally take counsel of the Medical Council, but it will make a great mistake if it does not remember that the Council is a deeply interested witness, and if it does not alter the composition of that body by introducing a larger number of members representative of general practice, and elected by the registered members of the profession, as we proposed seven years ago. The impending legislation must entirely abolish the *raison d'être* of several of the old examining bodies, and, with this, their claim to a continued separate representation in the Council. Room can be found, without enlarging the Council—already too big,—for the representation of general practitioners, whose fees maintain the Council, by either discontinuing the representation of superseded or effete bodies, or by making one member represent two or more similar bodies, as is already done in the case of the Scotch Universities, which educate more medical men than most other schools. It is not often that a body needing to be reformed is so lucky as to be the chief adviser of the Government in reference to its own reform. But this is the happy case of the General Medical Council. It is composed of men individually of the highest consideration, but who are sent into the Council to represent "interests" which are not synonymous with the interests of the profession or the public. To the public, who want well-educated medical men, to men who have sons to educate and pass into the profession, and to medical students, a reconstruction of the Council as a part of medical reform is as essential as the introduction of a one-portal system.

It is not unlikely that the Government may think it right to consider the expediency of creating a new class of practitioners in the form of specialists, such as dentists or the like. We have only, at present, room for a word on this subject. It will be an unfortunate and retrograde step to put men on any Register issued by the Medical Council and kept by the medical registrars who are not fully educated in a medical sense. A dentist ignorant of physiology and of the anatomy and the diseases of the body is a mere mechanic. What would be thought of an oculist who was not a fully educated medical man? If dentists, as distinguished from fully qualified medical practitioners, are to be registered, they should be registered in a special register; and it should be strictly provided that they shall use no title implying possession of a qualification to practise medicine or surgery, such as "surgeon-dentist"; nor should anything be done to restrict the right at present possessed by any registered surgeon to practise dentistry.

IT is always difficult to say precisely what the Legislature can, and wholly impossible to guess what it will, do at any particular conjuncture. Seeming opportunities are sometimes shown to be the reverse of opportune for the uses it is proposed to make of them. We are therefore unwilling to press with more than common earnestness for the benefits which certainly appear to lie within easy reach while a measure so comprehensive as the County Government Bill is passing through the House of Commons. Some of these have been urged on the consideration of Parliament until their point may perhaps seemed blunted: for example, the provision of a suitable place of security to which real or supposed lunatics may be sent during the interval which must needs elapse between notice being received by the relieving officer and the medico-magisterial adjudication whereupon the alleged lunatic is removed to an asylum or discharged. The statutory length of this interval is three days, during which the responsibility of keeping the patient in safe custody rests upon the relieving officer. That functionary generally places his charge in the workhouse, and, *illegally*, seeks to discharge his duty by deputy. As a matter of strict law, we believe the officer appointed to administer relief to the poor has no more right to use the parish or union workhouse as a place of detention, than justices have to convert the same establishment into a "lock-up" for children and persons of divers ages who have been brought before them on charges upon which they hesitate to commit to prison. "Remanded to the workhouse" indicates a method of disposing of accused persons not known to the law. There must, of course, be some elasticity in the admi-

nistration of justice, but it is clearly undesirable to leave a course of procedure doubtful when it may be readily defined.

As a matter of fact, even *if* the master of a workhouse be bound to receive a lunatic on the "order" of the relieving officer, and the medical officer be under an obligation to treat him during the "three days," it is manifest that no power of detention exists. The question whether a relieving officer has any right to issue an "order" for removing to the workhouse a person who has not asked for relief is one which ought to be answered; and if the law is not clear on the point, it should be elucidated. Meanwhile, the graver question, whether a person admitted on such an "order" can, or ought to, be detained against his will, involves issues of no small moment. Every inmate of a workhouse may claim his discharge after twenty-four hours' notice to the master. It is difficult to imagine what order to the contrary would constitute a legal detainer. Nothing the relieving officer could say or do would have effect, because that functionary has no jurisdiction after delivering the patient at the door of the establishment. The board of guardians could not, if they desired, convert the workhouse into a prison. Any "order" signed by justices in such a case must be addressed to an officer of the peace, and the master of a workhouse is not bound to obey it except in the capacity of an ordinary subject of the QUEEN. While a certificate of lunacy would at once take the person so classed out of the custody of the Poor-law officials, and leave him to be dealt with by the authorities of an asylum. The legal difficulty is generally avoided by the reappearance of the relieving officer at the door of the workhouse, before the expiry of the twenty-four hours, to claim his charge and produce him before a justice. This, however, is a most unsatisfactory arrangement. The law is strained, and risk is incurred; no proper provision is made for the *instant* treatment of acute cases; and in not a few instances mischief may be done by thrusting a person of excitable or susceptible mental temperament—a condition not extinguished, though masked, by the accession of disease—into the midst of circumstances which must needs prove irritating; for it will be remembered that the law relating to the arrest and disposal of alleged lunatics makes no distinction between the poor and the self-supporting. The assistance of the relieving officer is called in by friends of all classes; and he is, in fact, the only aid in an emergency. The money expended may be returned to the guardians, and the charge of maintenance defrayed by the family of a lunatic; but in a large proportion of cases the first step must be taken by the relieving officer when a person of unsound mind wanders from home, or an attack of derangement unexpectedly occurs.

The remedy for this by no means insignificant evil would be to empower the County Boards to make such arrangements, with the approval of the Commissioners in Lunacy, at the asylums under their charge as would place at the disposal of relieving officers, and the friends of persons suspected of insanity, a right to send them immediately to certain probationary wards, if possible apart from the main institution, where they might be seen and examined as the law may hereafter direct. We purposely omit here any reference to certain changes in the mode of certification which have been urged in these columns. The single point it is desired to press on the consideration of Parliament is the need that some adequate and legal provision should be made to meet a difficulty of daily occurrence, which it surely cannot be impossible to remove.

THE lecture of Professor CHARCOT which has appeared in our columns has presented to our readers, with all the distinguished lecturer's graphic skill, the facts and fancies of metalloscopy and metallo-therapeutics. We use the words in no sinister meaning, but advisedly, for assuredly the subject is one needing the most extreme care in distinguishing substantive facts from appearances. The phenomena of hysteria are among the most complex of all the symptoms of disease, and their relation to other physical and psychical conditions is so close and intricate that they present perhaps the most difficult field for therapeutical investigation.

Three views have been held regarding the character of the hysterical phenomena and their cause. One extreme view is that which ascribes them to simulation pure and simple. The anæsthesia is assumed, and the disappearance of the symptom is voluntary. But this explanation of the phenomena is hardly compatible with a close observation of the phenomena of hysteria, since in that disease very similar symptoms occur which cannot be ascribed to wilful deception. The hysterical state is one in which volition and unvolition run in parallel lines, and symptoms which are immediately involuntary are similar to—it may be almost identical with—others which are directly voluntary. The other extreme view is that all the sequences of hysteria have the same significance as the causal relations of the symptoms of other diseases, that the effects which follow certain applications have such relations to their antecedents as the consequences of similar antecedents in other maladies. If, for example, a piece of gold develops or removes anæsthesia, it is assumed that the effect is produced by a mechanism not altogether dissimilar to that by which any ordinary anæsthetic or stimulating application would produce the same result. It is assumed, for instance, that the gold application has a direct influence upon the nervous tissues to which it is brought into immediate relation—an influence which may be electrical or may be of a nature at present unknown, but which is a specific effect. This is an explanation which, in spite of some half-latent hesitation, is adopted by Professor CHARCOT. The third view is that which is dismissed by him as altogether inadequate—the idea that the mechanism is that which may be designated a psychical reflex, and which is somewhat incompletely, although not inadequately, expressed by the term "expectant attention." The question is one on which English physicians have, it may be thought, little ground for forming an opinion. It is certain that phenomena such as are manifested by the continental hysterics are very rare in this country. It is certain that all analogous phenomena of hysteria with which we in this country are familiar may be adequately explained by the theory to which we have adverted; and it is noteworthy, as a not unimportant element in the discussion, that the careful observation of the English physician, who, probably more than any one of his compatriots, is competent to form an opinion on the subject, inclined him very strongly to this explanation. We do not think that the evidence against it which Professor CHARCOT

brings forward has any bearing on the question. The chief objection which he alleges is the regular order in which the phenomena are manifested. But this demonstrates only that the phenomena of grave hysteria have more definite laws of origin and progress and disappearance than we have been in the habit of assuming. The observation of the symmetrical appearance or disappearance of hemianæsthesia under metallic applications, or of the order in which perceptions of colour appear or disappear, has no bearing at all on the question of the mechanism by which the changes are effected. The question appears to us to be beset with pitfalls of fallacious inference far more grave and numerous than Professor CHARCOT is disposed to admit; and we think that the profession will do well to suspend its judgment until some more independent evidence is forthcoming than that furnished by the well-trained patients of the Salpétrière, or even the private practice of its distinguished physician.

Annotations.

"Ne quid nimis."

LITHOTOMY AND LITHOTRITY.

THE admirable paper prepared by Sir Henry Thompson and read at the meeting of the Royal Medico-Chirurgical Society of London on Tuesday last is, without exception, the most valuable and trustworthy contribution to literature of stone in the bladder ever made by any single surgeon. The list comprises 500 cases of stone in the bladder of the adult male in 422 different individuals. All the patients were above twenty years of age, the majority being between fifty and seventy years, and the mean age was sixty-one and a half. Of these 500 cases, 422 were treated by lithotrity and 78 by lithotomy, with a total of 61 deaths, or an average mortality of 12·2 per cent. Such a result in so large a number of unselected cases is alike gratifying and enviable, whether taken by itself or compared with that obtained by other operators. The published experience of the famous surgeons, Cheselden, Martineau, Brodie, and Fergusson, gives an aggregate of 422 similar cases, with 69 deaths, or 13·98 per cent., that is 1·76 per cent. more than Sir Henry Thompson has had. The statistical results of lithotomy and lithotrity given in Sir Henry Thompson's tables are, however, strikingly different. Of 78 cases treated by lithotomy 29, or 37·18 per cent., died; while in 422 cases of lithotrity there were only 32 deaths, or 7·58 per cent. This, of course, does not represent the statistical difference of the two operations in analogous cases. Sir Henry Thompson has always laid stress—and of late years with increasing emphasis—on the fact that the operations should not be regarded as reciprocal, but as complementary one to the other. And the inference to be drawn from his full and complete experience is that lithotrity is, as a rule, unsuitable for stones more than an inch in their long diameter—the actual limit varying with the nature of the calculi—and for those that require the fenestrated bladed lithotrite. For such lithotomy should be employed. The discussion that followed the reading of Sir Henry Thompson's paper was, with one or two exceptions, both desultory and discursive. After Mr. Cadge had brought his ripe and ready knowledge to the examination of the leading facts in the paper, there was perhaps little more to be said offhand. It would, therefore, have been well if the discussion had been adjourned until the Fellows had had an opportunity of carefully and thoughtfully perusing the paper at their leisure. There were many surgeons present whose opinions would have been most interesting and valuable if they had had time for preparing them.

THE DENTAL PRACTITIONERS BILL.

THE misconception which, to some extent, prevailed a week ago, with regard to the concessions alleged to be made by the promoters of the Dental Practitioners Bill, has been corrected. It is again recognised—even by those who were for the moment induced to think the chief grounds of objection had been removed—that the measure is a monstrous attempt to create a register, which shall be kept under the authority of the "Medical" Council by the Medical Registrars, but upon which the names of dentists who are not *medical* men will be placed side by side with the "surgeons" practising dentistry; and in virtue of such regulation these unqualified persons are to enjoy the privilege of describing themselves as "surgeon" dentists, or dental "surgeons," despite the fact that they have no surgical qualification! Against a proposal of this character legally qualified practitioners of medicine and surgery must protest. The opposition is not to be appeased by the consent of those who promote the Bill to waive a claim which would have imposed a penalty of £20 upon any surgeon who dared to make a specialty of dentistry and describe himself as a "surgeon dentist." There can be no possible objection to the dentists having a register of their own, but let Parliament avoid giving such register the colourable value which would accrue to it in the eyes of the public by permitting the duty of registration to be performed by the Medical Council, constituted under the Act of 1858. The Dental Register should be a list apart by itself; and it must, in any case, be expressly provided that no dentist shall use the title *surgeon* alone, or in combination with any other term, unless he is a surgeon duly registered as such, as the statutes at present in force provide. Unless the Bill be modified to meet these requirements, especially the last prohibiting the false use of the title surgeon, it should, and will, we believe, be summarily rejected by a House not desirous of stultifying the legislative enactment of 1858.

ARTIFICIAL LIGHT IN RELATION TO THE COMFORT AND WELL-BEING OF THE EYES.

AT the meeting of the Medical Society of London, held on March 4th, Mr. Brudenell Carter read an interesting paper on the above subject. He said that Dr. Copland was the first writer who called attention to the injurious effects of some forms of artificial light, and that he had been followed by Dr. Hunter, of Edinburgh, whose book, published in 1840, had since been largely drawn upon by Professor Arlt. Hunter had attributed to the effects of artificial light many of the symptoms of the malady since recognised as glaucoma, and Mr. Carter believed that close application of the eyes by ill-regulated artificial light was very injurious to them, and might well lay the foundation of disorders of nutrition capable of leading ultimately to glaucoma, cataract, or to certain forms of inflammation. The principal faults of artificial light are its insufficiency, its frequent unsteadiness, its defective composition as contrasted with solar light, and the great amount of heat by which it was accompanied. The effect of insufficiency of illumination was always hurtful, because it required the eyes to be brought very near to the object of vision, and this not only called for a fatiguing effort of accommodation, but also for an amount of convergence which was apt to occasion the development of progressive myopia. As regards the quality of artificial light it was wanting in the blue rays of the solar spectrum; and these rays were at once the least irritating to the retina, the best for purposes of definition, and were attended by the smallest amount of heat. The colour of artificial light was not due to any excess of the red or green rays of the spectrum, but solely to deficiency of blue; and it was a great desideratum to discover some means of obtaining a larger proportion of blue rays

by the process of combustion. The common practice of passing the rays of artificial light through a blue medium simply caused absorption of some portion of the red and the green, and did not communicate any additional blue rays, so that it greatly diminished the total amount of light, and should not be had recourse to unless this was originally abundant, as otherwise it produced all the ill effects of simply defective illumination. He had lately commenced some experiments, with the assistance of Professor Barff, upon different kinds of artificial light, analysing them by means of a prism, and comparing their several spectra with that of the solar light. They are very poor in blue rays, the greatest amount of blue being (so far as his inquiries went) yielded by the Silber burner, whether for gas or for oil, and he recommended the burners as the best sources of artificial light. The only fault of the Silber burners was the large amount of heat which they gave forth, and the best protection against this was to interpose between the flame and the worker a glass cell filled with a saturated watery solution of alum, which possessed the physical property of arresting the rays of heat, while it suffered the light to pass freely. In an experiment he had made by placing two thermometers, one on either side of a gas flame, at a distance of six inches, one unscreened and the other screened by the cell, in a room where the temperature was 62° before the gas was lighted, he found, one hour afterwards, that the unscreened thermometer had risen to 99°, while the screened one stood at 73°, so that the alum cell had intercepted 26° of heat.

A NOBLE EXAMPLE.

THE generosity shown by Mr. Justice Denman, Sir William Erle, and Baron Pollock, in presenting the whole or part of their shares of the proceeds of the sale of Serjeants'-inn to University College, St. George's, and Charing-cross Hospital, is highly creditable to these gentlemen. Mr. Justice Denman's gift to University College amounts to £900, and such an act of generosity may well put to shame some of those City guilds, the existence of which is as anomalous as that of Serjeants'-inn but lately was, which spend *hundreds* in order that the "livery" may dine, and give *tens* to Lazarus lying in the neighbouring hospital. We are often treated to a newspaper paragraph announcing that "the Bellowsmenders' Company have presented £50 to the funds of this or that hospital," an announcement which we should the better appreciate if the quarter's bill for turtle and champagne were given in a parallel column.

GLASGOW AND SEWAGE DISPOSAL.

THE Municipality of Glasgow has just issued the report of a committee appointed by it, in conjunction with the Board of Police of the City, to visit various towns of England and inquire into the modes of sewage disposal adopted there. Confidence in the committee is rudely shaken at the beginning of the report, when we come upon the astonishing statement that "in the immediate vicinity of the great pumping station at Abbey Mills, the large and important district of Stratford, itself part of the metropolis, is left wholly undrained, the Metropolitan Board of Works refusing to admit the sewage, except at a price which the Local Board are not willing to pay." What will the West Ham Local Board and Mr. Rawlinson say to this? Stratford forgotten and left out of their scheme of drainage!—a scheme completed, if we mistake not, before the metropolitan main drainage system was devised. The great interest of the report on this side of the border consists, however, not so much in the special subject of the committee's inquiries, as in the particular point of view from which they regard the whole question of sewage disposal. They have nothing to add, neither do they pretend to add anything, that is new to our knowledge of the subject. But what they have to say upon the general question of the disposal of excremental matter will be read with deep attention in many English towns. "There are two ways," they observe, "in which excremental matter may be dealt with—the dry system, and carriage by water. The first is the most rational, as well as the most consistent with public health and with national prosperity. The weak part of this system, however, is that, while it disposes of excreta, it leaves untouched all the other sewage, which would still require to be removed by water-carriage, and be purified, of course, before passing into a river, in the same way as if it contained the whole excreta. While, therefore, we hold that, upon economical and sanitary grounds, water-closets, especially in houses of the smaller sort, and in public works, gaols, railway stations, &c., should, as far as possible, be replaced by an efficient dry-system, we do not think that the adoption of this course will very much lessen the amount of sewage to be dealt with, or render its purification less imperative."

In respect to the sewage of Glasgow, the committee recommend that it should be dealt with by precipitation before being passed into the Clyde, and that the sludge should be disposed of partly by use on waste land, partly by removal by farmers (who might take a small quantity), but mainly by being carried out to sea, after the manner in which the dredgings of the river are disposed of.

DEATH AT THE LYCEUM.

IT is, to say the least, a very unsatisfactory thing that an actor, who, we believe, has the best interests of the drama at heart, should expend his energies in burlesquing the King of Terrors. Mr. Irving's representation of the death of Louis the Eleventh is calculated to make "the judicious grieve"; for it is in no sense true to nature (nor is it, perhaps, desirable that it should be), and we could not possibly hazard an opinion as to the cause of death of the wicked old monarch. During the course of the piece we are treated to an occasional cough, which seems to speak of grave lung disease, but the actor manages to shout so lustily once or twice during the death-agony, that this theory is not tenable. How comes it, too, that the Court physician leaves Louis for dead when those at the back of the dress-circle can plainly see that respiration is still in full force? We think, also, that Mr. Irving's hands and arms play too vigorously during the act of dying; but all this, perhaps, is excusable, for no man who had ever been present at a prolonged death would represent what he had witnessed. Mr. Irving has necessarily to draw upon his imagination, and that which he represents at the Lyceum happily represents nightmare rather than death.

IRREDUCIBLE HERNIA.

ALTHOUGH surgeons have for many generations been agreed as to the impropriety of interfering by surgical operation with ordinary cases of irreducible hernia, there has been no lack of ingenuity in devising plans for protecting the tumour from injury and for preventing increase of size; but it is not so well known that attempts at reduction without operation have also been occasionally successful. Many surgical observers have recorded instances of irreducible hernia becoming reducible after long confinement in bed or emaciation from illness. Fabricius Hildanus gives an account of a man who was radically cured of an irreducible rupture of twenty years' duration by six months' confinement in bed. Pott, Le Dran, and Arnaud have also recorded similar cases. The latter, imitating Nature's process, accomplished the reduction or a large scrotal hernia, which had existed from infancy, by confining the patient in bed, by restricting him

to a light and spare diet, and by the employment of venesection, calomel, purgatives, and clysters. In the same way the famous Mr. Hey, who practised at Leeds in the last century, succeeded on several occasions. M. Cloquet effected reduction of a large scrotal hernia by means of rest in the horizontal posture and by the application of suspensory bandages progressively diminished in size. Mr. Earle succeeded in a similar instance by means of confinement, low diet, the internal administration of solution of potash mixture, and the injunction of mercury over the swelling. Mr. Bransby Cooper also succeeded with confinement in bed, low diet, the continued application of ice, and, where there was much omentum, by giving, in addition, small doses of blue-pill and tartar-emetic, so as to promote absorption of the fat; and still more recently Mr. Erichsen — who seems to credit Mr. B. Cooper with being the first to employ this method of treatment — has, while following out the rest of the treatment, advantageously substituted iodide of potassium for the blue-pill and tartar-emetic. Many years ago Mr. Hilton succeeded in reducing a large scrotal hernia in a young man, which had been irreducible for six months, by keeping the patient in a horizontal posture, forbidding him to drink more than half a pint of fluid in the twenty-four hours, by the constant application of ice to the tumour, and by the frequent internal administration of sulphate of magnesia and colchicum wine. In our "Mirror of Hospital Practice" this week a case is recorded from the practice of Mr. Maunder at the London Hospital, similarly successful.

UNQUALIFIED ATTENDANCE ON THE POOR.

THE *Mid-Surrey Gazette* gives the particulars of a case in which Mr. Coroner Carter is blamed, and, we think, very rightly, for not holding an inquest. It was the case of a child, about a year old, which had been attended for some time by a person entirely unqualified. The child getting worse, the parents called in Mr. Brown, of Clapham Junction, who found the child in a semi-comatose state. Seeing the gravity and obscurity of the case, he at once told the parents that, in the event of death, he would not be able to give a certificate. But, though the facts were laid before the Coroner, he declined to hold an inquest. On the other hand, the registrar refused to give a certificate for burial before communicating with the Registrar-General, who, we are informed, approved the action of Mr. Brown. It is deeply to be regretted that coroners should not help medical men in exposing the evil of allowing disease to go on till life is compromised before sending for a doctor. Whether the delay is intentional, or only from ignorance, the result is the same, and every such case ending fatally should be exposed. Surely coroners ought to investigate every case in which the medical man is called in only, as it were, to give a certificate of death.

GOLDEN-SQUARE HOSPITAL.

THE special meeting of the subscribers to the above hospital, convened at the request of a considerable number of their body, and held on the 2nd inst., had, as regards its professional aspects, a most unsatisfactory termination. A long and detailed statement of the proceedings of the meeting has been published by the authorities of the hospital in several newspapers, but its value is nullified by the fact that the precise objects for which the meeting was called were expressly avoided, by the majority of those present declining to receive the report of the Committee of Inquiry appointed in July last at the request of His Royal Highness the Prince of Wales, and which resulted in the withdrawal of the patronage of their Royal Highnesses the Prince and Princess of Wales, and in the resignation of the Marquis of Bute, the president of the institution. The extraordinary character of the whole proceeding was made apparent by the fact that, whereas the meeting was convened "to receive the report of the Committee of Inquiry," the first *resolution* was to decline receiving such report! This, if moved at all, should have been in the form of an amendment. We doubt, therefore, whether the meeting has any legal value.

We must still insist that an explanation is still owing to the profession, and the best way of beginning to wipe off the score will be to publish without further delay the report of the Committee of Inquiry with accompanying explanations.

PULMONARY HYDATIDS IN A CHILD.

DR. TOEPLITZ, of Breslau, relates the case (*Berlin. Klin. Wochenschr.*, No. 24, 1877) of a boy, five years of age, who at Christmas, 1875, was attacked with febrile symptoms and cough, without any appreciable cause. The cough persisted, short and dry, and resisted ordinary remedies. At the beginning of March, 1876, when apparently quite well, the child was seized with a severe paroxysm of coughing and symptoms of imminent suffocation, the attack terminating with the expectoration of a dense, yellowish-white membrane, covered by blood-stained mucus, and followed by slight hæmoptysis. Other attacks ensued at intervals, and after the fourth of these the child was brought to the hospital. It was well-developed; pulse 144; temperature normal; respiration 40, not laboured. Thorax was well formed, but there was appreciable bulging of the right side, especially at its lower part; and there was dulness on percussion over the right back from the spine of the scapula downwards, and in the axilla. Anteriorly, the resonance became impaired from the fifth rib downwards. The breath-sounds and vocal fremitus were much weakened over the dull area. The apex of the heart impinged slightly outside the left nipple. The expectorated membrane was structureless and hyaline in appearance, but at its margin the characteristic lamination could be detected. No hooklets were found. On two subsequent occasions, in the month of May, more membrane was expectorated, and hæmoptysis was occasionally produced. The treatment was mainly medicinal, iodide of potassium being freely given. By September the cough and other symptoms had disappeared, but the physical signs remained unchanged. It appears that the child was in the habit of playing with a dog belonging to its parents, and it is quite possible that it may have become infested with the echinococcus through this animal.

HEREDITARY TRANSMISSION.

THE issue of *Nature* for the 7th inst. notes a curious instance of the hereditary transmission of peculiar physical traits, described by M. Lenglen, a physician of Arras. A certain M. Gamelon, in the last century, was sex-digital, having two thumbs on each hand, and two great toes on each foot. The peculiarity was not noticed in his son, but in each of the three subsequent generations it has been strongly marked, some of the children at present showing the malformation as distinctly as their great-great-grandfather. M. de Quatrefages noticed, a few months since, a similar instance in the animal kingdom: a six-toed cock having transmitted this peculiarity to his descendants, it has spread to such an extent that in the district where it occurred the ordinary five-toed variety is no more to be met with.

THE LEGALITY OF COUNTER PRACTICE.

THIS question is still *sub judice* in the form of an appeal from a judgment in the Nottingham County Court, in the case of the Apothecaries' Society *v.* Shepperley, in which the defendant was fined in the full penalty of £20 for counter prescribing. When taken to the Exchequer Court the

Lord Chief Baron refused to give judgment in the case, and ordered a new trial, deciding that the case should be removed to the High Court of Justice, in order, no doubt, that opportunity may be given for a final appeal to the House of Lords. The pleadings for the new trial are now being delivered, but there is a danger of the plaintiffs having to abandon the appeal from want of funds. The question is deeply interesting to the profession, and the plaintiffs feel themselves entitled to appeal to its members for help. Mr. G. E. Sanger, North Circus-street, Nottingham, and Dr. Hatherly, Wellington-street, Nottingham, will receive contributions for this purpose.

THE ACTION OF LACTIC ACID.

THE discovery of the hypnotic action of chloral, founded as it was upon a chemical study of its decomposition, has led to the attempt to discover other sedatives by *à priori* reasoning. Since lactic acid is a product of muscular action, and muscular action has a sedative effect, it seemed to Preyer probable that lactic acid might be the substance on which this effect of muscular action depended, and that it might prove, in sufficient doses, a valuable sedative. Its use has been said to have been in a few cases successful, but in a much larger number of cases it has failed. All question of its value should be set at rest by the results of some researches by Dr. A. Auerbach, of Berlin, who concludes from a series of careful observations, in which altogether sixty doses were given, that it has no influence whatever. The patients in whom the observations were made were inmates of a lunatic asylum, and care was taken to administer the acid to those who were unused to sedatives as well as those who used hypnotics habitually. It was given both during the daytime and at night, every collateral condition likely to promote sleep, a quiet darkened room being employed when it was given in the daytime. The dose administered varied from 10 to 35 grammes of lactic acid, and 20 to 40 grammes of lactate of soda. In not a single instance could any distinct sedative influence be traced. In one-third of the cases serious intestinal inconveniences were occasioned.

THE MINERS' HOSPITAL, REDRUTH.

A HOSPITAL in a crowded mining neighbourhood is so imperatively necessary, owing to the great frequency of accidents, and the severe character of the injuries thus caused, that it is scarcely to be believed that only one such institution exists in a county like Cornwall, with so many districts in which mining is almost the sole occupation. Not only, however, is this the case, but even in the exceptional instance of Redruth, the hospital is almost entirely dependent for its existence on the liberality of Lord Robartes. In 1877 the cost of its maintenance was £987, and of this £722 was contributed by this nobleman. The balance has been paid by him year after year, and speaks volumes for his generosity; but we are surprised that the people in the neighbourhood should be content to permit him to be responsible for such a large annual deficit. The accounts read as if many of those who should subscribe to such a valuable charity were satisfied with merely giving a few shillings to the Hospital Sunday Fund, instead of taking an active interest in its working and support.

THE RÔLE OF LYMPH IN THE CICATRISATION OF WOUNDS.

IN a paper read before the Société Médicale du Haut Rhin, Professor Koeberlé discussed the part played by lymph in the cicatrisation of wounds. He remarked that as long as the flow of blood continued that of the lymph was unobserved. Yet it is well known that in a cut which affects lymphatics as well as bloodvessels lymph continues to flow in spite of the exercise of an amount of compression sufficient to arrest hæmorrhage. This exudation is only stopped when the occlusion of the lymphatics is complete. After a certain time this liquid, at first very fluid, becomes plastic; it contains fibrine which undergoes coagulation, as may at any time be seen on wounds caused by vesicatories. On this account, therefore, lesions or cuts intersecting the lymphatics are more difficult than others to heal by the first intention. Moreover, the lymph easily becoming puriform gives rise to the sanies which, infiltrating the tissues, occasions erysipelas, secondary hæmorrhages, and other accidents consecutive upon a wound. This stagnation of the sanies is rendered evident by redness and pain occurring at some point in the line of the cicatrix. It then becomes necessary to allow of its escape by opening the wound at this point. Observation shows that in the middle line of the body, where there are few lymphatics, immediate union often occurs; and further, that longitudinal incisions, which do less injury to the lymphatics, heal better than horizontal ones. Professor Koeberlé hence draws the conclusion that, when practicable, incisions should be made parallel to, and not across, lymphatic vessels.

SMALL-POX IN DUBLIN.

AT a meeting of the guardians of the South Dublin Union last week Mr. O'Brien, Local Government inspector, drew attention to the spread of small-pox, and considered it necessary that some steps should be taken with a view of providing accommodation to meet the exigencies of the case. The accommodation in Cork-street Fever Hospital has become almost exhausted, there being eighty-three cases of the disease in it; and the only means of obtaining extra beds would be by the erection of a shed. In the Meath Hospital there were ten cases, in Steevens's Hospital twenty, and twenty-four in the Hardwicke; but there is no provision for convalescent cases. A committee was appointed to examine what hospital accommodation is available, and, if inadequate, to make arrangements to supply the defect.

THE COMPOSITION OF PUS.

THE twenty-fifth part of Fehling's *Neue Handwörterbuch der Chemie* contains a short but carefully worked-up article on Pus, in which, after some preliminary account of its general characters, the following particulars are given. The constant chemical constituents of pus are water, alkali, albuminate, and three other albuminous bodies, one of which coagulates at 48° to 49° C., and is insoluble in a 0·1 per cent. solution of common salt and in a dilute solution of soda; a second insoluble in water, but swelling up in a solution of salt, and soluble in a 0·1 per cent. solution of hydrochloric acid; and a third insoluble in solution of salt, but soluble in a 0·1 per cent. solution of hydrochloric acid. In addition it contains nuclein, fats, soaps, cholesterin, lecithin, cerebrin, phosphuretted fats, and inorganic salts, of which the chief are sodium chloride, phosphates and carbonates of the alkalies, phosphate of lime, and some iron oxide. The nuclein albuminous constituents, cerebrin, cholesterin, and lecithin, belong to the pus-corpuscles. The occasional or, as they may be regarded, abnormal constituents of pus are mucin (from mucous membrane), chondrin, gluten, chlorrhodinic acid, pyocyanin and pyoxanthosis (in blue pus), biliary acids and pigments (in the pus produced in icteric patients), grape sugar (in diabetics), and urea. When long exposed to the air, pus passes into acid fermentation, and then contains leucin, formic, butyric, and valerianic acids. Hoppe Seyler found in 100 parts of the serum of pus: water, 90·96 per cent.; solids, 9·04, of which albuminoids formed 7·02; lecithin, 0·10; fats, 0·04; cholesterin, 0·07; alcohol extract, 0·06; water extract, 0·92; inorganic salts,

0·77. One hundred parts of dry pus-cells contained albuminoids, 13·726; nuclein, 34·257; insoluble substances, 20·566; fats, 14·383; cholesterin, 7·400; cerebrin, 5·199; extractive, 4·433; and nearly 2 per cent. of salts.

MARLBOROUGH HOUSE PURIFIED AND CERTIFIED.

AFTER a final inspection of the sanitary works which have recently been carried out at Marlborough House, and an experimental examination of the arrangements for flushing the drains, Sir William Gull, Mr. Robert Rawlinson, C.B., and the representatives of the Office of Works have certified that this palace is in a fit state for residence. Mr. Rawlinson is reported to be quite satisfied with the manner in which the work done has been executed; Sir William Gull is reported to be satisfied, provided that the drains are flushed daily. To meet this requirement it is probable that the Thames will have to be diverted, so as to pass through the basement of Marlborough House.

THE METROPOLITAN WATER BILLS.

A DEPUTATION representing the vestries and boards of works of St. George's (Hanover-square), St. Pancras, Westminster, Marylebone, Lambeth, Clerkenwell, Greenwich, and Chelsea, has waited upon the President of the Local Government Board to protest against the Metropolitan Water Bills promoted by the Metropolitan Board of Works. The deputation was introduced by Sir T. Chambers, M.P., who argued, in the name of the deputation, against the enormous cost proposed to be imposed upon the metropolitan ratepayers, without any sufficient cause having been shown.

STRUCTURE OF THE SALIVARY GLANDS.

IN the *Centralblatt für die Med. Wissenschaften*, a preliminary notice appears from the pen of J. Bermann, stating that, from a series of researches he has made, he finds that the submaxillary gland in the rabbit contains, besides the ordinary acinous glandular tissue, an intercalated tubular gland, the ducts of which are much contorted and intertwined. These ducts possess an epithelium peculiar to themselves, and, both in their arrangement and in their contents, differ essentially from the other parts of the gland. They open into the ducts of Wharton, and their secretion is of course mingled with that of the acinous submaxillary gland. Still more recent investigations have satisfied him that the gland presents a similar complexity in the human subject.

A CURIOUS CASE.

A LITTLE child at Brighton has been killed by accidentally swallowing a squeaking air-bladder. It appears, from information kindly furnished us by Mr. G. A. Johnson, that the toy slipped through the glottis with the bladder downwards, and the quill mouthpiece upwards, so that with every inspiration the bladder became more or less inflated, and thus prevented the entrance of air to the lungs, and produced death by suffocation. A verdict of "accidentally suffocated" was returned by the jury. The case must be unique.

AN APPEAL.

WE have been asked to call attention to the following distressing case: — In consequence of advanced Bright's disease and anasarca, a member of the Royal College of Surgeons of England was compelled some months ago to relinquish a small and poor-class practice in London, upon which he had hitherto been entirely dependent. He is now, unhappily, in a state of extreme destitution, and in urgent need of help. Sir James Paget and Dr. Habershon, to whom his deep poverty is well known, have kindly undertaken to receive contributions on his behalf.

CHARING-CROSS HOSPITAL.

THE rumour that the re-election of the present senior surgeon has caused some dissatisfaction at the hospital is not true. The re-election was made at the express wish of the majority of that gentleman's colleagues. Nevertheless, the rules relating to the senior members of the staff will bear revision, and should be more clearly expressed.

OUR Aberdeen correspondent writes:—"The outbreak of typhus in the North Lodge Industrial School still continues, twenty-six cases in all having occurred amongst the inmates. The school is an industrial school for girls, and at the beginning of the year about 120 were resident in it, of ages ranging from five to fifteen years. The first case occurred about the middle of January, followed by four others at the end of the same month. During February cases continued to occur from time to time. In the beginning of this month the school was broken up, and all the inmates removed to a building in the outskirts of the town, in order to have the house thoroughly purified and disinfected. Notwithstanding this, six cases have occurred since the removal, and it is to be feared that more will follow. Fortunately the cases have been on the whole mild."

IT would seem that of late it has not been an uncommon occurrence for parochial medical officers to send to the small-pox hospitals patients who are found on reception not to have small-pox. Mistaken diagnosis in such cases might lead to very serious results, and the medical man certifying should take every precaution against committing himself to an erroneous written opinion. We observe that the Metropolitan Asylums Board have called the attention of the Holborn Guardians to the fact that a child which had been sent to the Hampstead Hospital, stated to be suffering from small-pox, was discovered to have scarlet fever, of which disease the patient died. The guardians have asked their medical officer for an explanation.

WE are glad to observe that the ambulance department of the Volunteer force of this country is attaining a high state of efficiency under the judicious encouragement accorded it by the Government. As yet the movement is confined to the Metropolitan volunteers, but some of the provincial corps are showing a laudable desire to become acquainted with the duties of attending the sick and wounded, and very likely they will soon be gratified by receiving means and material for the necessary instruction. The department now numbers 350 members in London. Preliminary classes are held at Wellington Barracks, and advanced classes at the Albany-street Barracks.

THE Manchester and Salford Sanitary Association have presented a memorial to the Salford Town Council, setting forth the excessive mortality prevailing in Salford, which has been a source of deep concern to the memorialists, and making certain recommendations for improving the health of the town. The memorialists believed in the existence of an interested organisation which had opposed sanitary reforms affecting cottage property, and they now urge the Council to obtain powers under the Artisans' Dwellings Acts to reform the dwelling accommodation of the borough, and to put such powers in force without delay.

WE may remind our readers and likely exhibitors of specimens, that the meeting of the Pathological Society on Tuesday next, the 19th inst., has been set apart for the exhibition of specimens illustrative of the pathology of the Lymphatic System.

THE Ladies' Charitable Institution and Lying-in Hospital, Birkenhead, has at last found a new home. The premises in Clifton-crescent, hitherto occupied by this charity, have never been in all respects satisfactory; they are in a somewhat narrow street surrounded by houses, and a little out of the way. Now all this will be changed, for the new hospital occupies a fine airy site in Conway-street, one of the widest streets in the town. It is a detached building, and was erected about a year ago as a residence by a professional gentleman, who has since died, and the managers of the lying-in charity will find little difficulty in converting it to its new uses.

SIR DOMINIC CORRIGAN having resigned his connexion with the Board of Superintendence of Dublin Hospitals, at a special meeting of the members recently held, the following resolution was unanimously adopted:—"That we receive with extreme regret the retirement of Sir Dominic Corrigan from this Board, of which he has been an active member ever since its formation in 1856, and further, we desire to place on record our deep sense of the valuable services he has rendered by his constant attendance at its meetings, by his wise counsels in all its deliberations, and by his practical acquaintance with the organisation and management of the institutions under its superintendence."

AN outbreak of diphtheria of considerable dimensions has occurred at Upper Clapton. Up to the present time six deaths have been reported. An inspection of the houses in the infected localities by the medical officer of health for the district disclosed the fact that, with one exception only, the drainage arrangements were so defective that sewer-gas was freely admitted into the dwelling-houses. In one large house five pipes emptied themselves into the drains without being trapped. The remarkable connexion between diphtheria and drainage has again been illustrated at the cost of human life.

THE Registrar-General, in his last weekly return, calls attention to a fatal case of small-pox occurring in Hope's-court, Walworth, part of the Newington sanitary district, in which the cause of death was described as "probably small-pox," and was not certified by a registered practitioner. The deceased was an ironer, aged twenty years, and no inquest was held, although it would appear desirable to know who was responsible for allowing this young woman to die of small-pox without providing her with any medical aid.

AT the parochial schools, under the management of the Islington guardians, a formidable outbreak of measles has occurred, there being at present sixty children in the infirmary, a large proportion of whom are suffering from the disease, while the number continues increasing. A difficulty has been experienced in keeping the infected children apart from the healthy, but to deal successfully with the outbreak complete segregation should be immediately enforced.

THE death-rate in London last week was 23·1 per 1000, showing a further decline on former weeks. Whooping-cough, among the zymotic diseases, still maintained its pre-eminence on the score of fatality, 102 deaths being registered under this head. Measles and scarlet fever accounted for 46 and 35 deaths respectively, and different forms of fever for 28. The deaths attributed to diseases of the re-respiratory organs numbered 362.

THE death is announced of Dr. Joseph Henry Corbett, of Dublin. The deceased was formerly Professor of Anatomy and Physiology, and an Examiner in the Queen's University in Ireland.

AT a Special Board of Governors of St. Mary's Hospital, held on Friday, March 8th, Mr. Haynes Walton, a member of the Council of the Royal College of Surgeons, England, succeeded to the senior surgeoncy, in the vacancy occasioned by the retirement of Mr. Spencer Smith, and Mr. A. T. Norton was elected full surgeon. The election of assistant-surgeon caused by the promotion of Mr. Norton has not yet taken place.

IT having been found necessary to enlarge the Glasgow Ophthalmic Institution, the Earl of Stair, Lord Blantyre, Mr. J. A. Campbell, Mr. James White, Mr. J. Coats, Mr. P. Coats, Mr. James Duncan, and Mr. Henry Leck, have each subscribed £200 towards the £2000 required for the purpose.

REPORT
OF
The Lancet Special Commission
ON THE
VENTILATION OF THE POLICE-COURTS.

THERE is perhaps no greater anomaly than the fact that persons are prosecuted, tried, and sentenced for offending against our Sanitary Laws, in Courts where the most elementary principles of hygiene are systematically disregarded. Indeed, if we had a public prosecutor, he might very well begin his duties by prosecuting our public authorities for transgressing the laws of health in our public courts and offices. Now, however, that the attention of Parliament has been called to the subject, something may be done so that the administrators of the law will ultimately be able to preach by example as well as by precept. We have a Common Lodging-house Act, by which lodging-house keepers are not only compelled to ventilate inhabited rooms in an efficient manner, but must give about 300 cubic feet of air to each lodger. If similar rules were observed in the police-courts and police-cells, an untold amount of unnecessary human suffering would be avoided—to say nothing of maintaining that decorum and consistency which should distinguish all that appertains to the application of the law.

With the courteous assistance of the sitting magistrates, we have been enabled to visit four police-courts within the last few days. We were naturally more anxious to inspect the Marylebone Court, where the air is so impure that the recent death of one of the reporters (Mr. C. Radford) has been generally attributed to its unwholesome influence. Indeed, a careful examination of the court and its surroundings must tend to confirm this impression. On measuring the Court we found that it contained about 14,000 cubic feet of space, without calculating, however, the skylight opening. Supposing, therefore, it were possible to obtain air from the outside, which, like that of most towns, only contained 0·04 per cent. of carbonic acid, the entire volume of air should be renewed once in an hour if only fourteen men were in the Court; for, without ventilation, the percentage of carbonic acid would amount to 0·08 at the expiration of that time, and it would be well that it should not exceed this proportion. When we noted, however, how badly the Court was ventilated, and that it held on the day of our visit more than a hundred persons, it will be seen how far we are removed from our ideal. The cubic space often falls to less than 100 cubic feet per person, and that is allowing for a height of over 26 ft. But, beyond 10 ft., the height is of, comparatively speaking, less importance; so that 100 cubic ft. per person in a lofty law-court has not nearly the same hygienic importance as 100 cubic ft. between the decks of a

ship or in a lodging-house. Estimating the Marylebone Court at, in round numbers, 14,000 cubic feet, the average attendance at 100 persons, the *entire* volume of air within the Court should be exchanged for outside street-air every eight, or, at most, every ten minutes.

Mr. G. Noel, in answer to Mr. Forsyth's question, brought before the House of Commons last Friday, maintained, however, that since the ventilators have been opened, the ventilation is all that can be desired. But on the very day following this confident assertion there was an important trial, and the atmosphere became so foul that a young attorney was taken ill and had to leave the Court, while a solicitor, with whom we conversed, had to abandon the trial four times, to refresh himself with a little external air. Mr. Mansfield also was powerfully affected. There are three fireplaces in the Court, and a large opening above each fireplace gives admission to a quantity of smoke and dirt, but evidently fails to draw away the foul air. Three small windows high up in the wall, immediately opposite the magistrate's seat, are more effective ventilators; but, as they face the north, the down draught they produce is often unendurable. To the left, or west, there are five similar windows, measuring about 2 feet by 3 feet. In summer they are opened, but as the sun streams through, it is necessary to draw the blinds. This checks the current of air, and the blinds, becoming the ready receptacle of dust and dirt, cannot be moved without much annoyance. Three other openings of a similar character immediately behind the magistrate are hermetically closed; double windows have been built. Finally, there is the glass roofing, which occupies the centre of the ceiling. This intensifies the cold in winter, and converts the Court into a hot-house during the summer. Nor does it possess any small opening, which would greatly facilitate ventilation. The whole side opens at once, and this is too much, excepting in the height of summer, when again the benefit derived is marred by the indispensable blind which keeps the sun out. It would nevertheless have been easy to contrive a system of Venetian blinds falling outside these openings, and held at a distance, so as not to interfere with the air current. The windows in their present state are very unsatisfactory ventilators, and are consequently shut more frequently than they should be. There remain, however, the doors.

On the east side a long dark passage divides the court from various offices. The first door, immediately to the magistrate's right, leads to the upper part of this passage, and it would admit tolerably pure air, but for the fact that it is very rarely opened. The next door is more frequently opened, and here the dark passage is thronged with people crowding to the usher's room, the affidavit-room, and the waiting-room. The latter room measures 12 ft. 10 in. by 10 ft. 9 in., and contains sometimes as many as twenty persons. Nor are the windows easily opened, to add to the 70 or 80 cubic feet of air each person would have. Such is the nature of the air that enters the Court from the north-east door. The door on the north end leads to the public entrance and the crowded lobby, whence no good air can come. But it is on the west side of the Court that we find the culmination of all these evils. The corridor that skirts this side of the building has at one extremity the male charge room. This is of irregular shape, but is equivalent in size to about 4 by 5 yards, and often contains thirty persons. Here there are two windows, but no cords with which to open them. Next comes the female charge room, measuring 13 ft. 10 in. by 9 ft. 9 in., and 9 ft. 6 in. in height. Here from twenty to thirty women wait, many with babies in their arms, till it is their turn for trial; the cubic space for each person, varying consequently from 40 to 60 ft., not counting the babies! Some of these women have to wait in this crowded atmosphere from 10.30 A.M. to 3 P.M. The passage leading to these two horrible rooms is thronged with police, and there is also a crowded policeman's waiting-room by the side of the two charge rooms. This part of the passage goes at angles with the rest of the corridor, and faces the prisoners' entrance to the court. Above this entrance there is a skylight going on to the passage, but it is rarely raised, so that each time the Court door is opened the foulest air rushes in from these abominable charge rooms.

Whatever variety there may be to this rule is due to the air coming from the other part of the passage—an alternative which, if anything, aggravates the evil, for here are situated the police-cells. As a good illustration of the carelessness with which this building has been constructed, we may mention that the opening to the passage drain-pipe is situated on the highest part of the floor. Thus, when the cells are washed out, the water cannot escape; it therefore remains in pools, unless it is mopped up, and the mop cannot be introduced under the seats in consequence of a fixed iron railing. On entering one of these cells we found two small ventilators opposite the door. By measuring the in-current coming through these apertures with J. H. Steward's air-meter, we calculated that they admitted 33 cubic feet of air per minute. This most delicate instrument failed, however, to record the entrance or exit of any air through the perforated iron plate which closes the small opening in the door of the cell; but, if this be lowered, the current of air would amount to about 40 feet per minute. With such an implement in hand it is easy to test the force of currents; and the mechanical skill displayed in the manufacture of the air-meter renders it an invaluable agent in similar investigations. The little ventilators to which we alluded are, we should add, situated so that the wind blows on the backs and necks of the prisoners when they sit down. They, therefore, carefully cover up the opening with their clothes. Why were they not built two or three feet higher? The imperfect condition of the drains also adds to the odours of these cells. We caused one of the closets, which are placed under the seat in each cell, to be flushed, but the water only seemed to compress the sewer gas, till at last it suddenly forced its way upwards, invading the cell, and compelled us to beat a precipitate retreat. In constructing these drains a slate had been so inserted as to prevent their communicating with the main sewer. The result was a block, which lasted till last summer, when the drains were so full that the matter came up into the yard through the waste water-drains. The assistance of the sanitary officer was requisitioned, the drains dug up, and the offending slate discovered; but still, even now, these drains evidently do not work properly. The odour that escapes constantly from them often invades the offices and court, not to mention the cells, where the prisoners are the first to breathe the poison.

With such surroundings it will be seen the Court requires more than ordinary ventilation. Without ventilation the rough and often dirty crowd that gathers within its walls would corrupt the air in the space of about eight minutes. Then, every moment, doors are opened which let in air of worse quality from the surrounding and overcrowded waiting-rooms, charge-rooms, cells, &c. To clear such an accumulation of foul gases will be a matter of no small difficulty.

At Bow-street we found very similar faults, with this difference, that the Court is much smaller, and, being old, there is more excuse for errors in construction. The Court is so irregular in shape that it is difficult to estimate its precise cubic area. The magistrate, for instance, sits on a platform twenty-five inches higher than the well of the Court, and there is another lower platform. We calculated, however, that the Court contains about 9500 cubic feet of space; and there were seventy-six persons in the Court on the day of our visit. More than a hundred persons, however, often squeeze into this small compass. There are two ventilators over the public part of the Court which communicate with the chimney-shaft. A gas-burner within this shaft would possibly have created a draught but for the fact that it was not lit! Along the wall to the right of the magistrate, at a distance of about one foot from the ceiling, are four little windows, each about two feet square, and there are also swing-side skylights that open in the glass roof which forms a sort of dome in the centre of the ceiling. All these apertures cannot, however, be freely used. They produce violent down draughts in the winter, and in summer blinds are necessary to protect the Court from the sun. The doors here, as elsewhere, supply therefore a very important proportion of the ventilation; and here, as at Marylebone, the magistrate's entrance would admit good air if it were not always carefully closed. A wooden partition has been contrived, which acts as a sort of funnel, and throws the whole volume of air as it enters by this door round the magistrate's seat, thus rendering his position untenable. The door is therefore closed. The other doors are, of course, frequently opened, but they only admit air from the surrounding ill-built and overcrowded offices and waiting-rooms. The clerk's office is a *chef d'œuvre* of low, ill-ventilated darkness. The sun cannot reach its one window till three in the afternoon. The charge-room is, however, the worst place. It is well ventilated—that is, it boasts of an open skylight, and of two doors, both generally

kept open, not to mention the fireplace,—but it only contains about 2600 cubic feet of space, and on one occasion, no less than 91 prisoners were crammed together in this small room. In this fearful crush a sufferer from small-pox was discovered! A short time afterwards an usher of the Court was attacked with the same malady. We need not remark that this was altogether an exceptional occurrence. It is not every day, even in a police-court, that a crowd can be found confined in 28 cubic feet of space per person! Beyond this room are the police-cells, where the closets are not trapped and the ventilators do not act. We entered one cell which sometimes holds as many as twelve prisoners, and if we did not make any error in the darkness, it measured 1818 cubic feet. The only place where the air came in successfully was a small chink under the door, and here the volume that entered amounted to perhaps five feet per minute. With such surroundings the Court may well be unwholesome. Its walls are running with the condensed steam and vapour that escape from the dense, dirty crowds assembled here during rainy weather, while, in hot weather, the closeness and heat are unbearable, and the bad odours cannot be concealed even by the use of perfumed sawdust. Indeed, it is well that they should be easily detected, as that may lead to their ultimate removal.

At the Mansion House, to which our next visit was paid, we found innumerable methods of ventilation. To the right of the magistrate, in the centre of the wall, there are a number of pipes 1 in. in diameter and 6 ft. 8 in. long, running parallel one with another for a height of 7 ft. These pipes give off heat, and above there is a ventilating shaft and gas burner. Opposite, between a double wall, there are some hot-air coils. These attract air up a shaft which opens in Charlotte-row, and throw it into a staircase, and not into the Court; but, by closing the opening on the staircase side, the air would probable penetrate the Court. There it would certainly be wanted, for, though the Court measures about 14,500 cubic feet, and has some good windows, it receives the foulest air from two spiral staircases which lead to the basement. Down in this basement, and below the level of the street, away from any skylight, any grating, or other communication with the outer air, are situated the noisome cells. Their walls are of strong wire, and nothing can prevent the noxious gases generated in these cages from ascending the spiral staircases into the Court. One of the staircases is closed over with a sort of hatch, which, when opened, allowed the foul air to enter the Court to the extent of about 2000 cubic feet per minute when we made our investigation. This of course must vary enormously according to circumstances, giving, as a rule, however, if anything, a worse result. It seems extraordinary that the prisoners below should be allowed thus systematically to poison their judges above. Some attempts, unworthy of notice, have been made to ventilate these cells, but with no result, as anyone with the sense of smell can readily perceive. It may interest some of our readers to know that the police-court is placed under the Mansion House ball-room. An opening in the ceiling allows a portion of the air from the Court to enter this celebrated apartment. Thus the guests of the Lord Mayor at times unconsciously breathe air that has already been inhaled by the thieves and culprits who have been caged in the dark prison below.

At Westminster we found that the cells were entirely removed from the vicinity of the Court. They have also small windows, a notable improvement, for they give a little light. These cells are not, on the whole, so objectionable, though often overcrowded. We estimated the size of the Court at about 14,400 cubic feet. Above the stove, at the end of the Court, opposite the magistrate's seat, there are two ventilators, with a gas ring burner to attract a current up the shaft, but as the gas is rarely lit we may conclude that they do not act satisfactorily. In the centre of the Court there was another ventilator, which created so violent a down draught on the solicitor's table that it has been definitely closed up. To the right of the magistrate, three enormous windows give a splendid light, but as the two first are double windows they are rarely opened. The third is, however, often opened about three inches at the top; and as there is opposite a small louvre window, a through draught is easily created over that portion of the Court where the general public stand. There were ventilators on a level with the floor, but these have been closed, as they were inconvenient to all who stood near them. On the other side, opposite the three windows, are three doors. The first, leading to the clerks' room, is rarely used; the second, leading to the crowded ushers'-room and waiting-room, is constantly opened, and allows each time a large volume of foul air to enter the Court; the third door is rarely employed. Here, therefore, we again found that the surroundings were bad, and the means of ventilation irregular—either too violent or insufficient,—though these defects were not so glaring at Westminster as at Marylebone and Bow-street.

In conclusion, we may urge that as, at best, it is no easy matter to ventilate an overcrowded and small Court, the building should at least be free from the invasion of bad air generated outside. A Court should, if possible, be as isolated as a church, and its approaches should consist of open air galleries, with rails, to keep the prisoners under control, but which would give all freedom to wind, air, and light.

SPONTANEOUS GENERATION.

PAPERS on Spontaneous Generation appeared in the *Nineteenth Century* — one by Dr. Tyndall in January, another by Dr. Bastian in reply in February. Both are well worthy of perusal. After a historical *résumé* of his subject, Dr. Tyndall describes his method of filling flasks with organic infusions, of preventing contamination, and of heating such flasks to 212° Fahr. and hermetically sealing them so that their boiled contents are beyond all question free from infection by germs. Sixty flasks thus treated were transmitted to the Alps—7000 feet above the sea level,—and on their arrival but six were muddy, and it was found that the fragile ends of these flasks had been broken *in transitu*. The "muddy" changes were due to a vast development of bacteria which swarmed in the infusions. The remaining fifty-four pellucid solutions were exposed to sun or artificial heat, and at the end of a month fifty (four being accidentally destroyed) were found still pure. Twenty-three were then opened in a hay-loft, and twenty-seven in mountain air, and both sets were heated over a stove (50° to 90° F.) In three days, twenty-one of the former (the contaminated set) had putrefied, while not one of the other had changed. It is clear to Dr. Tyndall that all antecedent experience proves that he is right in concluding that particles of dust-laden air are the germs of the life of the changed infusions. There is no warrant, he adds, offered by nature for the assumption that this life proceeds from dead particles, and though it is true (as Dr. Bastian has stated) that Liebig said "dead decaying matter can produce fermentation," yet, adds Dr. Tyndall, this chemist did not regard fermentation as synonymous with life, and his views of molecular instability involved no such theory as that life sprouted from the planting of dead particles. Dr. Tyndall refers to his experiments with infusions in moteless chambers, wherein, at any heat, varied according to the "caprice" of his opponent, no change will occur, though with the opening of the chambers putrefaction at once begins. He also dwells on an interesting series of experiments with ordinary infusions, and with mineral solutions containing the elements of bacteria, but as he questions the very part in these experiments on which he founds his argument we will not dwell on them here. The disputed death-point of bacteria is the stronghold, he says, of the heterogenist, who, he states, in face of such examples as that given by the plant *medicago*, which will survive four hours' boiling, makes special kinds of living matter do duty for all kinds. Dr. Tyndall's belief is that soft bacteria are destroyed by less than a minute's boiling, but he deems the extension of this fact to the desiccated germinal matter of the air as without justification. Dr. Bastian urges that the question is not whether germs can initiate putrefaction, for all admit that, but whether mere débris from the air, either as particles or large fragments, can cause similar changes, and repeats that Liebig gave to decaying organic matter like functions with those which Pasteur would limit to living organisms. Gerhardt and others, he points out, have also maintained that mere organic matter can set up fermentation with a birth of living particles, and whether this be true or not is the actual question to be

solved. Dr. Bastian thinks Dr. Tyndall has "but renewed the proofs of things which were not before doubted"; and can find no evidence of the existence of those "ultra-microscopical particles" which, we are assured, can by subsidence contaminate infusions, and especially questions their existence because Dr. Tyndall states that they behave to heat altogether unlike all known visible germs. The late Professor Wyman believed that the disputed questions can only be settled by proving how far living things resist water at high temperatures, and both sides seem to favour this view. Dr. Bastian compares generation *de novo* with crystallisation; and quotes Spencer, Lewes, Huxley, Darwin, and even Virchow, as men who hold that at one time living matter came into being independently; while some—Trécul, Frémy, Cantoni, and others—believe that a like process is still going on. As regards the death-point of bacteria, Cohn and Horvath have, says Dr. Bastian, confirmed his experiments, which fixed it at 140° Fahr. This, to a certain extent, Dr. Tyndall admits, but thinks the germ will live in a higher temperature than the parent; and Dr. Bastian, referring to Dr. Tyndall's charge that he has made "special kinds of living matter do duty for all," points out that in his book, "Beginnings of Life," he had particularly recorded the death-rate of different infusions, and remarked on the resisting power of some seeds. He does not deem his case proved, but argues that all facts tend in its favour, and flatly describes his opponent's arguments as those of simple assertion. Dr. Tyndall has assumed that bacteria must spring from seeds, and uses this "must" to interpret all his experiments. Finally, more moderate opponents of heterogenesis—for example, Mr. Lister and Dr. Burdon-Sanderson—think it highly improbable that bacteria have any germs at all, and, whether they have or not, have certainly never met with any which could resist half an hour's immersion at 210° F. Dr. Bastian concludes with the opinion that those who would show that spontaneous generation does not occur at the present day can only do so by proving that ferment-organisms are able to withstand a brief exposure to 212° F. in fluids.

We are sorry we cannot leave the matter with the last sentence. In this month's issue of the *Nineteenth Century*, Dr. Tyndall has a "last word on spontaneous generation," and it is a source of regret to us that we feel obliged to condemn its general tone, and to say that it is written in a spirit which we trust will be rarely met with in scientific discussion. It is lamentable that so much personal feeling should invariably creep into the consideration of this most vital question, and that it should be treated as if individuals alone, and not the whole scientific world, were concerned in it. Heterogenists may have erred in this direction, but in no single instance so far as has Dr. Tyndall in his last diatribe. On the first page of his "last word" he contemptuously terms his "respondent" (Dr. Bastian) a "neophyte," who has not treated a "master" with proper consideration. But this is a point for others to decide, and not the "master" himself. If Dr. Bastian be a neophyte, he is one who for eight years has legitimately combated Dr. Tyndall's views, and surely Dr. Tyndall himself will be ready to admit that this "respondent" has year by year forced him to elaborate his experiments and to guard against possible errors. Heterogenists have made mistakes in this most difficult inquiry, so also have their opponents; and to have made mistakes is no disgrace to one or the other; we have no belief in the infallibility which some scientific men assume for themselves. But it is a different matter to charge a man with "leaving his medical brethren in the dark," and with wilfully refusing to retract errors. This touches not only scientific probity, but common honesty, and we condemn such utterances in the strongest way. The questions at stake are serious ones, and, in spite of Dr. Tyndall's "last word," are by no means at rest. A "last word" which, notwithstanding many excellent points, is from beginning to end a sarcasm on a particular individual, who has devoted great ability and much labour to the subject, will, we are sure, not be countenanced by scientific men, no matter what may be their opinions on the main question.

SMALL-POX has recently broken out in Leek, having, it is stated, been imported from Glasgow, although the disease has not been prevalent in that city. Several cases have occurred among persons who attended the burial of the first case. One of the fatal cases was of an unvaccinated child aged six years, whose father was some time since fined for refusing to have his children vaccinated.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF PSORIASIS BY CHRYSOPHANIC ACID.

To the Editor of THE LANCET.

SIR,—In a recent discussion at the Clinical Society, opinion was somewhat divided with regard to the efficacy of chrysophanic acid as a local treatment for psoriasis. May I trouble you with a few facts bearing upon this subject.

Two patients with general psoriasis (large confluent patches over trunk and limbs) have lately been treated in the wards of Charing-cross Hospital on the following plan: The trunk and limbs were washed night and morning with soft soap, the latter being used pretty vigorously over the diseased patches. Afterwards, a weak ointment of chrysophanic acid (five grains to the ounce, in one case seven grains to the ounce) was rubbed on the affected parts. A tight-fitting linen vest was worn next the skin, and the limbs were bandaged. No inconvenience was experienced, excepting in one case a trifling erythema, or, as it seemed rather, a false erythema, produced by staining of the epidermis. The patients were kept in bed. There was intolerance of arsenic in both cases, so that a carbolic acid mixture thrice daily was ordered.

Both patients remained under the above treatment about a month, and left the hospital "cured"; that is to say, the disease had disappeared from the surface, the places where it had been on the trunk were not discernible, and but faintly so on the limbs, as smooth, slightly erythematous patches.

In one case the disease began to show itself again a fortnight after leaving the hospital. In the other patient, who went out three weeks before Christmas, there have been no signs of recurrence.

I remain, Sir, yours obediently,

ALFRED SANGSTER,
Physician in charge of Skin Department,
Charing-cross Hospital.

March 11th, 1878.

THROAT HOSPITAL, GOLDEN SQUARE.

To the Editor of THE LANCET.

SIR,—A statement was made by a subscriber of the Throat Hospital, at the special meeting held March 2nd, and has been publicly reported, to the effect that the Hospital Committee had offered to have the charges against the medical management investigated either by Lord Cairns or Lord Selborne. I had read the statement in a leading article of a medical newspaper of November 22nd, 1877, but as there appeared in that article about twenty statements and suggestions which I considered to be erroneous, I did not lay any stress upon it. For my own part, and I am sure I may speak with certainty on behalf of those who with me were formerly connected with the hospital, there is nothing we court so much as a thorough and complete investigation. Would Dr. Mackenzie and the Throat Hospital Committee of Management arrange that such an inquiry take place without delay?

I am, Sir, yours faithfully,

W. PUGIN THORNTON.

Devonshire-street, Portland-place, W., March 12th, 1878.

THE ROYAL COMMISSION ON PRISONS.

To the Editor of THE LANCET.

SIR,—A laborious and exhaustive inquiry into the management of our convict prisons is in progress by a Royal Commission.

An investigation of this kind, conducted by such men as Lord Kimberley, Sir Henry Holland, Dr. Greenhow, and others, cannot fail to elicit the truth that there is scarcely a question within the scope of the inquiry which does not reveal the great extent of the medical officer's responsibility.

The machinery of such prisons as Millbank, Pentonville,

Chatham, &c., would not work smoothly if experience, tact, and professional skill were wanting in the surgeons, whose decisions and opinions are in hourly request, and it is a reasonable ground of complaint that their services are most inadequately requited. They had a right to expect that, in the recent appointments of commissioners and inspectors under the Prisons Act, some of their number would have been nominated. They have a right, when the salaries of other officials in the department are augmented on the plea of increased work, to claim equal consideration on the same plea, and they have a fervent hope that on Dr. Greenhow, one of the Royal Commissioners, they may rely for a strenuous representation of their important work, and for its more substantial recognition.

Your obedient servant,

March 11th, 1878. A CLAIMANT.

THE ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—As Mr. Hardy has stated in the House that he has appointed a committee to inquire into the present state of the Army Medical Department, I beg to draw the attention of that body to the regulation lately brought into force, refusing promotion to the administrative ranks to medical officers who have not served three years in India, as it has caused more ill-feeling and heart-burning amongst officers now serving than any of the many changes made of late years, besides showing that there is a desire to improve the condition of the present officers, whilst attracting a larger supply of candidates.

I have the honour to be, Sir, yours, &c.,

CONCILIATOR.

Obituary.

FREDERICK CHARLES JONES, M.D. EDIN.

FEW men were more popular in the borough of Southwark than Dr. F. C. Jones. His recent and sudden death has therefore cast a gloom over the neighbourhood of Blackfriars in which he resided. His old friends, neighbours, and colleagues on local boards mustered in large numbers around his grave, and testified by their presence the high respect in which he was held. Although Dr. Jones had a large and extensive practice and a wide repute as a surgeon, yet he took such a keen interest in imperial and local questions that he was well known to the general public. He was a zealous politician, and although we give no opinion as regards his political bias, yet we must acknowledge that he deserved all credit for expressing freely and unreservedly his honest convictions. We may add that Dr. Jones belonged to a family whose members have shown on many occasions the courage of their opinions. His father, Captain Charles Jones, R.N., did much good service, although he was ill-rewarded by his country. His mother (first cousin of John Henry Newman) patriotically served us a lady-nurse with Miss Nightingale during the Crimean war, although she was more than sixty years of age when she left her home. Dr. Jones was no less courageous. He had known for some time that his heart was diseased, yet he went on steadily with his daily work, although his life "hung by a thread." On the day preceding his fatal illness, he told his coachman, "Look back to me sometimes; and if I am very pale, drive to a chemist's." The heroism of the hard-worked doctor in striving to do his duty faithfully to the last is told by this order.

Dr. Jones graduated in Edinburgh in 1838, after he had studied at Guy's and at Paris, and he was in his sixty-first year at the time of his death on the 4th ult. He was the author of several papers on surgical subjects, and he held for many years the appointment of senior surgeon to the South London Dispensary. When he was obliged to resign that appointment, he was unanimously chosen as consulting surgeon, and presented with a handsome testimonial. Always cheery in manner, he commanded the affection as well as the confidence of his patients. He was a welcome guest at every house he visited, because he always strove to cheer his patients even when he could not hope to save.

WILLIAM CHARLES KERR, M.D.

DR. KERR was the third son of General James Kerr, of the Hon. East India Company's Service, and was born at the Mount House, Bombay, on the 8th May, 1799. His father (then Colonel Kerr) held the office of Military Auditor-General in the Bombay Presidency, and on returning to England in 1805, established himself in the neighbourhood of Bath, and it was at the Grammar School there that Dr. Kerr received his early education. In the year 1815 he became a student at the Northampton General Infirmary, under his late uncle, Dr. William Kerr, who was then in the zenith of his professional reputation. The late Sir Charles Locock, Bart., was also a student at the same time, and an attachment was thus formed between them which continued through life. Dr. Kerr afterwards proceeded to St. George's Hospital, and prosecuted his studies under the late Sir Benjamin Brodie, and eventually graduated at the University of Edinburgh, where he took the degree of M.D. in 1822, having previously become a L.R.C.S. Ed. He settled in Northampton, and in 1823 was elected a physician to the General Infirmary there, which appointment he held until he retired in 1855, when he was elected a physician-extraordinary. In 1828 he married Maria Elizabeth Robinson, younger daughter of William Lewis, Esq., of the Hon. East India Company's service, who survives him, and by whom he leaves four sons and two daughters. Upon retiring from practice in 1855, he purchased the Hale Estate, Gloucestershire, and resided there until his death, at the age of seventy-eight, deeply regretted not only there, but at Northampton, where he had practised so long.

THOMAS PRICHARD, M.D.

DR. THOMAS PRICHARD died at Abington Abbey, Northampton, on the 14th February. He was the son of a medical man, and devoted his life to the study of lunacy and the treatment of the insane. He was first initiated into, or, it may be said, enamoured of, this study by a residence in the Northampton Asylum, of which his cousin, the late Dr. Thomas Prichard, was physician-superintendent. In the year 1842 he went to Glasgow, and, with his brother, the late Dr. William Prichard, of Partick, he formed one of a band of five assistants in the Glasgow Royal Asylum for Lunatics, in all probability the first clinical assistants ever admitted to any asylum in this country. While there he completed his studies at the University of Glasgow, where he obtained the degree of M.D. in 1844. The same year he was appointed medical superintendent of the asylum, and, under the physician, had the chief charge of the institution for nearly three years longer. On the death of his cousin already referred to, who had seceded from the public asylum at Northampton and established a private institution at Abington Abbey, in the immediate neighbourhood of the town, he resigned his connexion with the Glasgow Asylum, and repaired to Abington to succeed to its management. How successful he was in his new sphere of labour is well known to all his medical friends, especially to those conversant with the management of asylums. He possessed to a degree but very rarely equalled that tact and skill in the care and treatment of the insane which are so necessary to their amelioration, comfort, and cure. His natural kindness of heart and generosity of disposition made him welcome with great enthusiasm everything connected with the non-restraint system, which in the early part of his asylum career agitated the profession and those interested in lunacy, and he used to boast that he had never seen a strait-jacket used.

In private life Dr. Prichard was peculiarly fascinating in his manners and demeanour, kind and hospitable almost to excess, methodical and exact in everything he said or did. He lived and died beloved by his friends and patients, by whom his loss will be very severely felt. The cause of his death was believed to be malignant disease of the stomach, which, however, seems to have proved fatal in its early stage, and before that fearful agony had begun which so generally accompanies that dread malady. Dr. Prichard married his cousin's widow, who predeceased him, and by whom he leaves one son, who intends following his father's profession.

ROYAL COLLEGE OF SURGEONS, ENGLAND.

AT an ordinary meeting of the Council, held on Thursday last, after the transaction of routine business, Professor Humphry, F.R.S., of Cambridge, was nominated Hunterian Orator for 1879.

A protest was read from the Association of Surgeons practising Dentistry, in reference to the decision of the Council relating to the qualifications of teachers of Dental Surgery and Pathology.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 7th:—

Hope, William More, Piccadilly.
Nockolds, William Stephen, Shepherd's-bush.
Ross, Richd. Alexander, Brighton.
Stuart, Henry Ogilvy, Woolwich.

The following gentlemen also passed the Primary Professional Examination:—

Frederick Enos Fenton, St. Mary's Hospital; Thomas Lambert Hall, Birmingham; Robert James Wm. Oswald, Charing-cross Hospital.

DR. RYAN (late medical officer of the Grean District, Tipperary) has received a retiring allowance of £50 per annum.

MR. SAMUEL MORLEY, M.P., has offered to join with nine others in contributing £100 each towards the proposed alterations at the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.

VACCINATION GRANTS.—The following gentlemen have received Government grants for successful vaccination in their respective districts:—Mr. Charles Ashenden, of Hastings, £34 13s. (third time); Mr. J. Treutler, M.B., C.M., of the Maresfield district, Uckfield Union, £9 8s.

SOCIETY OF PUBLIC ANALYSTS.—At the next general meeting, to take place on the 20th inst., at 8 o'clock, at Burlington House, Mr. A. Wynter Blyth will read a paper "On the Amendment of the Sale of Food and Drugs Act;" and Messrs. A. H. Allen and R. Bodmer one on "Experiments on the Determination of the free Acids of Vinegar."

DONATIONS, &C., TO MEDICAL CHARITIES.—Mr. Joseph Gurney Barclay has given £500 to the North Eastern Hospital for Children, Hackney-road. Mrs. Brayne has given £476 in aid of the Building Fund of the Great Northern Hospital. The Royal Infirmary, and the Western Infirmary, Glasgow, have received £1235, being the "residue" under the will of Mr. John Robertson, jun., of Glasgow, drysalter. The Gloucester Infirmary has become entitled to £1000 under the will of Earl Bathurst. Mr. Robert Jeffrey, of Shilbottle, bequeathed £500 to the Newcastle-on-Tyne Infirmary. The Victoria Hospital for Children has received £300, less duty, under the will of Mr. Dobie. The Grocers' Company have given £100 to the West London Hospital. Lord Overstone has given £100 to the Seaside Convalescent Hospital, Seaford. The Salisbury Infirmary has received £210 under the will of Mr. James Weekes James. The Adelaide Hospital, Dublin, has received £248 9s. 4d. by the will of the late Mrs. Brocas, of Dublin. The Misses Brooke have given £200 to Mercer's Hospital, £100 to the Coombe Lying-in Hospital, £100 to St. Mark's Ophthalmic Hospital, £50 to the Dublin Orthopædic Hospital, and £50 to the Stewart Institution for Imbeciles.

BOOKS ETC. RECEIVED.

Surgeon-Major G. J. H. Evatt: Army Medical Organisation.
J. Dewar: Indigestion and Diet.
The Pantiles Papers. No. I. Vol. I.
T. R. Lewis and D. D. Cuningham: Cholera in relation to certain Physical Phenomena.
C. J. Harris on Constipation.
R. Johnson on the Amelioration of the Criminal Law.
An Atlas of Illustrations of Pathology. Fasciculus I.
The Dublin Journal of Mental Science. March.
Dr. Louis Fialla: Guérison de Six Aveugles-nés.

Medical Appointments.

BARRON, T. W., M.B., L.R.C.P.L., M.R.C.S.E., has been appointed a Surgeon to the Durham County Hospital.

BATEMAN, L. P., M.R.C.S.E., L.S.A.L., has been appointed Assistant-Surgeon to the Derby Amalgamated Friendly Societies Medical Association, at £100 per annum and fees, vice Mackay, resigned.

BERRY, J., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Leyland Urban Sanitary District, at £15 per annum for two years.

BLOMFIELD, A. G., M.R.C.S., L.S.A.L., has been appointed House-Surgeon and Secretary to the West Norfolk and Lynn Hospital, at £100 per annum, furnished rooms, board, &c.

BROWN, J. J., M.B., F.R.C.P.Ed., has been appointed Medical Superintendent of the Fife and Kinross District Lunatic Asylum, Cupar, at £350 per annum to commence with, partly furnished house, &c., vice Fraser, appointed a Deputy Commissioner of Lunacy in Scotland.

BRUMWELL, E., M.R.C.S.E. &c., has been appointed Resident Medical Officer to the Kensington Dispensary, vice Wharry, resigned.

BURDOE, E., F.R.C.S., M.R.C.S., L.S.A., has been appointed Surgeon-in-Ordinary to Queen Adelaide's Dispensary, vice Bate, resigned.

CLARKE, F. W., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Bury St. Edmund's Urban Sanitary District, at £52 10s. for one year, vice Aldrich, whose appointment has expired.

CLARKE, T., L.R.C.P. &c., has been elected Medical Officer for the Third District of the Pewsey Union, vice Carter, whose time has expired.

COLAHAN, Dr., has been appointed Professor of Materia Medica in the Queen's College, Galway.

DALE, H. R., M.R.C.S.E., L.S.A.L., L.R.C.P.Ed., & L.M., has been appointed Assistant Medical Officer to the Infirmary, St. George-in-the East, Middlesex.

DALY, G. H., M.D., M.R.C.S.E., has been appointed Medical Officer to the Chippenham Friendly Society, vice Jay, resigned.

DE LAUTOUR, B. E., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Alne District of the Easingwold Union, at £26 per annum and fees, and Medical Officer of Health for the Alne Sub-district of the Easingwold Rural Sanitary District, vice Pain, resigned.

DONKIN, H. B., M.A., M.B., M.R.C.P.I., has been appointed Physician to the Tower Hamlets Dispensary, vice Munk, resigned.

ELSMERE, E., M.B., M.R.C.S.E., has been appointed Junior Resident Medical Officer to the Northampton General Infirmary.

GRANT, J., M.D., C.M., has been appointed Medical Officer and Public Vaccinator for the Longton District of the Parish of Stoke-upon-Trent, at £100 per annum and fees, vice Greene, resigned.

GRIFFITH, J. De Burgh, B.A., M.B., M.Ch., has been appointed an Assistant Medical Officer to the Worcester County Asylum, vice Craddock, promoted.

HOFFMAN, O. W., M.R.C.S.E. & L.M., L.S.A.L., has been appointed Medical Officer of Health for the Kington Rural Sanitary District, vice Foote, whose appointment has expired.

LITTLE, W., M.D., M.R.C.S.E., Associate of King's College, has been appointed Honorary Surgeon to the Royal Southern Hospital, Liverpool, vice Nottingham, resigned.

MCKERROW, G., M.B., C.M., has been appointed Medical Officer to the Kyle Union Poor-house, Ayrshire, vice Wield, deceased.

MCNULTY, J., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Killala Dispensary District of the Killala Union, co. Mayo, and Medical Officer of Health, vice Atkinson, resigned.

MERCIER, C. A., M.R.C.S.E., L.S.A.L., has been appointed Resident Assistant Medical Officer to the Salford Union Workhouse, vice Orchard, appointed Medical Officer to the Chorlton Union Infirmary.

MOODY, C. B., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Grimsby Post Office.

PENMAN, Dr., has been appointed Junior House-Surgeon to the Sunderland Infirmary, vice Blumer, appointed Senior House-Surgeon.

RANSFORD, T. D., F.R.C.S., has been appointed Honorary Surgeon to the Royal Southern Hospital, Liverpool, vice Wallaston, resigned.

ROBINSON, C. H., F.R.C.S.I., has been appointed Medical Referee for the Great Britain Mutual Life Assurance Society.

ROBSON, T. S., Ph.D., has been appointed Public Analyst for the Borough of Hartlepool, with a retaining fee of £5 5s. per annum.

SANDIFORD, J. O. G., M.D., C.M., L.A.H.D., has been appointed House-Surgeon and Apothecary to the South Charitable Infirmary and County Hospital, Cork, vice Armstrong, resigned.

SEARLE, G. C., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for Brixham, Devon.

SKRIMSHIRE, C. P., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Brynmawr Urban Sanitary District, at £40 for one year.

STEPHENSON, G. S., M.B., C.M., has been appointed a Medical Officer to the Grimsby Post Office.

SUTTON, T. S., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon, Dispenser, and Assistant-Secretary to the West Herts Infirmary, Hemel Hempstead, at £100 per annum, board, furnished apartments, &c., vice Pitts, whose appointment has expired.

TANNER, L. J. N., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Assistant Medical Officer to the Cork District Lunatic Asylum, at £110 per annum, £50 per annum in lieu of rations, house partly furnished, &c., vice Atkins, appointed Resident Superintendent of the Waterford District Lunatic Asylum.

WACHER, F., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Bluecoat School, Canterbury, vice Hutchings.

WELCH, J. B., M.B., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Handsworth Urban Sanitary District, Staffordshire, and his salary increased from £100 to £120 per annum.

WIGGIN, J., F.C.S., has been appointed Public Analyst for Bury St. Edmund's, at £10 10s. per annum, and 10s. per analysis for the first fifty, and 5s. per analysis beyond, in each year.

Births, Marriages, and Deaths.

BIRTHS.

BODY.—On the 1st inst., at Crediton, the wife of Henry M. Body, M.R.C.S.E., of a son.

FASKALLY.—On the 3rd inst., at Daventry, the wife of George B. Faskally, F.R.C.S.Ed., of a son.

ROBERTSON.—On the 6th inst., at Ardrossan, the wife of Robert B. Robertson, F.R.C.S.Ed., of a son.

MARRIAGES.

BARRON—SMITH.—On the 11th inst., at All Saints, Knightsbridge, Thomas Walter Barron, M.B., to Olive Mary, daughter of T. E. Smith, Esq., M.P.

WATSON—HOBSON.—On the 5th inst., at St. Paul's, Edinburgh, Thomas Boswall Watson, M.B., to Mary Elizabeth, daughter of P. Hobson, Esq.

DEATHS.

COWARD.—On the 25th ult., at Church-road, De Beauvoir-square, George William Henry Coward, L.R.C.P.Ed., aged 67.

DILL.—On the 14th ult., at Manchester, Dr. John Dill, aged 54.

DOBBIE.—On the 26th ult., at Morton Villa, Dumfries (the residence of his mother), James Dobbie, M.D., F.F.P.S., of Great Kelvin-terrace, Glasgow.

DONALDSON.—On the 23rd ult., at Newmarket, co. Cork, Ebenezer Donaldson, M.D., aged 68.

JACK.—On the 24th ult., at Glasgow, John Jack, M.D., aged 31.

MURRAY.—On the 6th inst., at Kerseknowe, Roxburghshire, John Murray, M.D., aged 75.

OSBALDESTON.—On the 3rd inst., at Hatfield, Herts, Thomas Osbaldeston, L.S.A.L., aged 82.

PEARDE.—On the 18th January, at Honolulu, Sandwich Islands, Henry Pearde, L.R.C.P.Ed., L.R.C.S.Ed., L.S.A.L., late of Coromandel, and formerly of Akaroa, New Zealand, aged 29.

RIVERS.—On the 4th inst., at Ipswich, Robert Rivers, M.R.C.S.E., aged 65.

SELWOOD.—On the 28th ult., Josiah Henry Selwood, F.R.C.S.E., of Ampton-place, Gray's-inn-road, aged 70.

THOMSON.—On the 5th ult., at Glasgow, Thomas Thomson, L.R.C.S.Ed., aged 71.

TREDENNICK.—On the 26th ult., at Rallybrack, co. Dublin, William Magee Tredennick, M.D., aged 32.

YOUNG.—On the 25th ult., at Bournemouth, Alexander Thomas Young, L.K.Q.C.P.I., aged 28.

[N.B.—*A fee of 2s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, MARCH 14TH, 1878.

Date.	Barometer reduced to Sea-Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 8	29·99	N.W.	41	46	..	56	44	..	Overcast
,, 9	30·26	N.E.	36	39	..	48	37	..	Overcast
,, 10	29·99	N.E.	47	48	..	52	38	0·14	Cloudy
,, 11	30·27	W.	44	46	..	53	40	..	Overcast
,, 12	30·24	E.	42	44	..	51	43	0·03	Overcast
,, 13	30·35	N.E.	36	40	..	45	28	..	Fine
,, 14	30·56	N.	34	36	..	..	32	..	Foggy

Notes, Short Comments, and Answers to Correspondents.

THE BOURTON-ON-THE-WATER VILLAGE HOSPITAL.

THE seventeenth Annual Report of this little hospital shows conclusively how useful these establishments may be made when they are well managed. Since the year 1861, when it was founded, there have been admitted within its walls over 600 patients, and 3500 others have been relieved as out-patients. We learn also that "almost every hamlet or parish within a radius of ten miles of Bourton has sent large numbers of applicants for relief; whilst the strongest evidence of the hospital being appreciated by the rural population is afforded by their hearty support of the congregational collections made on behalf of the institution." The expenditure, we are glad to see, is kept within the income, being about £20 on the right side. The need of accommodation has outgrown the capacity of the present building, and the Committee are taking steps to collect the necessary funds for a new hospital, in which undertaking we wish them every success.

Mr. William J. Fraser.—The animal was apparently affected with convulsions, arising from brain irritation, set up by teeth or non-closure of fontanelle. Not epileptic. Alternative conjecture: parasites in intestinal canal.

R.—A block should accompany the paper if the illustration be desirable.

ANTI-VIVISECTION.

THE Bill "to make Provision for the more Effectual Prevention of Cruelty to Animals," which has been prepared and introduced by Mr. Holt and Mr. Charles Wilson, contains the following clauses, which it may interest our readers to peruse:—"If any person shall, from and after the passing of this Act, cruelly torture or wantonly or barbarously injure any vertebrate animal, he shall be guilty of an offence against this Act." ..... "It shall not be lawful to perform any experiment causing, or being in itself of a nature to cause, pain or disease in any vertebrate animal, except for the purpose of alleviating or curing any disease from which such animal is suffering." The Bill further enacts that all *infirmaries for animals and physiological laboratories* (!) shall be registered and liable to inspection, and that the inspectors shall also visit all slaughter-houses and knackers'-yards. On receiving information on oath that there is reasonable ground to believe that a violation of the Act is about to be committed, a magistrate may order the police to make a domiciliary visit, and seize all articles which may afford material evidence for the conviction of the offender. The penalties for offending against the Act are fifty pounds fine, or six months' imprisonment, for a first offence, and double this for a second offence. There is, of course, no possibility of the Act being passed, and it is not a little remarkable that such a document should be printed and circulated at the expense of the nation. This is the season of the year when that much-prized delicacy, "Lambs' fry" is to be bought, and we trust that all who eat it will think of that operation which is lawful so long as it be done that a pampered belly may be filled, but which performed by a physiologist in the cause of science would render him liable (should Messrs. Holt and Wilson have their way) to fine and imprisonment.

Mr. Gay Shute (Greenwich) cannot have followed the printed directions accurately. Perhaps the cloth was warmed. We have before us a number of articles which have been washed repeatedly without any sign of injury.

Enquirer.—The question is a legal one; but we apprehend there is no good claim.

THE USES OF ANATOMY.

To the Editor of THE LANCET.

SIR,—The teacher whose business it is to enforce the truths which anatomy and physiology unfold must always feel grateful to those whose ingenuity can apply such principles to the needs and purposes of every-day life. A truth exemplified in this way often comes home with more clearness to the mind of the learner. The principle of the hollow column is beautifully illustrated in the hollow air-bones of birds, for in these strength and lightness are combined with the smallest allowance of building material. It is nearly 250 years ago since the aged philosopher, Galileo, when threatened by the Inquisition at Rome, appealed to the same great law, and found a fitting illustration in a straw picked from his prison floor. The elasticity and strength belonging to a bone, in virtue of its curves, is a familiar truth. It is well known to the human anatomist as a leading characteristic of the clavicle. It is perhaps still better seen in the corresponding bone of the flying bat, in which animal its chief function is to support as a buttress the membranous wing in its down stroke. Such twists and curves in the long bones, constituting the framework of the higher animals, have long supplied hints and suggestions to the engineer and architect.

There has recently been constructed on this principle of the double curve a wheel with curved spokes in place of straight ones. These curves are exact imitations of those of the human clavicle; indeed it was the study of this bone which suggested the idea to its ingenious inventor. One advantage of Stuart's clavicular wheel is a great gain of strength coupled with lightness. It is just this combination which becomes of first importance in the central portions of massive wheels, accelerating their revolutions, and maintaining their spin in a corresponding ratio. Metals are well known to expand or contract according to their temperature; such double curves permit both without risk of fracture. But Mr. Stuart has done more than imitate the curves of the clavicle. He has been true to his pattern, and has flattened the smaller outer curve, thus rendering the weaker one strong, to resist where the strain is heaviest. He has followed the shape of the inner curve, moreover, even copying the ridges which bound the subclavian groove, which so materially add to the strength of this part of the bone.

It must seem singular that the valves of the human heart, which have so long been known and figured, and which we learn excited the curiosity and wonder of the earlier anatomists, should have afforded no hint to those who have to deal with fluids under so many conditions, requiring the constant use of valves to regulate their currents and prevent their reflux. Later on we know how their contemplation stirred to admiration the physiologists who first began to glean their meaning and purpose. But the wider lesson they teach has now been learned, and nature's most perfect model has been roughly copied. The semilunar and bicuspid valves have been designed in india-rubber. From a strong ring the flaps slope gradually inwards, and their thinner edges meet so as to exert considerable mutual pressure, preventing most perfectly the return of any fluid once beyond them.

I have ventured, Sir, to trouble you at this length, because I believe it is knowledge of this kind, involving principles unbounded in their reach and application, which adds a charm to the study of anatomy, and renders much of its detail less irksome to the pupil. Anatomy is too apt to be regarded by the learner as a kind of puzzle, and hence it is well when truths, which are so often insisted upon, can be further confirmed by illustrations borrowed from another department.

I am, Sir, your obedient servant,

Harley-street, Feb. 1878. ARTHUR HENSMAN.

INJECTIONS OF CHLORAL IN CHOLERA.

THE hypodermic use of hydrate of chloral in cholera has been so strongly advocated by Surgeon A. R. Hall, A.M.D., who lately read a paper on the subject before one of the Medical Societies of London, that it is desirable the results of the experience of other observers should be placed on record, in order to ascertain as closely as possible what real value the drug possesses in the treatment of this much-dreaded disease. An outbreak of cholera, which occurred last year in Gorakhpur Gaol, gave Dr. A. Wood, Civil Surgeon and Superintendent of the institution, an opportunity of applying the chloral treatment. There were in all 20 persons attacked, of whom 12, or 60 per cent., died—a large mortality. Premonitory diarrhœa was generally treated with the ordinary cholera pills (containing opium, assafœtida, and pepper), and afterwards with chlorodyne; but from the moment of the appearance of true choleraic symptoms the treatment in every case consisted of the hypodermic injection of chloral, assisted with sulphur fumigation. The plan recommended by Mr. Hall was closely adhered to; the solution used was of the same strength as his; the dose was the same, and it was injected as often as the urgency of the case seemed to demand. There was, in fact, no hesitation in repeatedly using the syringe when symptoms refused to improve. The injections were used in all stages of the disease, from its first appearance up to the supervention of death, to the exclusion of everything but food, cold water, and the sulphur fumigation. That a mortality of 60 per cent. should under these circumstances have occurred does not tend to inspire very great confidence in the chloral treatment. Dr. Wood entered upon it with hope and confidence, and his subsequent disappointment was considerable. Of the 12 fatal cases, 7 died within twenty-four hours, and the rest, save one, within forty-eight hours of the appearance of the first choleraic symptom.

Mr. Orr.—The matter is one for arrangement.

VENTILATION ON BOARD SHIP.

To the Editor of THE LANCET.

SIR,—I have just travelled from England to the Cape by one of our first-class steamers, and though the accommodation for passengers was excellent in most respects, yet there is one evil to which I wish to draw attention—viz., the ventilation of the sleeping cabins. This evil is not peculiar to Cape steamers, but I believe common to all; and when we consider that a long sea voyage is very frequently recommended as a therapeutic agent, especially to persons suffering from lung affections, where pure air is most necessary, I think the subject sufficiently important to demand our attention.

Two others and myself (all adults) occupied a cabin, measuring 6×8×7=336 cubic feet, inclusive of luggage, &c. If the ship had had a full complement of passengers, four would have been squeezed into this space; but, the vessel not being full, there were only three. The means of ventilation were—

1st. A port-hole, which, however, was almost always closed by the steward at night, owing to the rolling of the ship, and the consequent danger of admitting water.

2nd. The door, opening into a passage which ran alongside the engine-house, and contained no better air than the cabin itself; also immediately opposite this door was a cabin occupied by a lady and her daughter, and therefore it could be kept only slightly open.

3rd. An aperture at the top of the cabin, a yard long and two inches deep, opening into the aforesaid passage.

Altogether the ventilation was very inadequate, and, as for myself, I used to get up at 4 A.M. in order to escape from the foul air of the cabin.

If I might be allowed to propose a remedy, I should say that in a steamer with a large furnace it would be a matter of no great difficulty to construct a system of pipes running along the passages, with branches opening into every cabin, so arranged as to draw air from each cabin. This arrangement would, I think, act efficiently as a ventilator without causing any perceptible draught.

I remain, Sir, yours truly,

Barkly, S. Africa, Jan. 30th, 1878. JAS. HUDSON, M.R.C.S.

ABERYSTWITH WATER QUESTION.

THIS long and vexed question is still unsettled. An inquiry was held by Mr. Arnold Taylor in December last, but his report has not yet been received. The projected scheme, which is a gravitation one, if carried out in its entirety, will place Aberystwith second to none as a health-resort, the water being, according to Frankland, one of the finest in the kingdom. The medical men of Aberystwith have sent to Mr. Bailey Denton, with the view of its being presented to the Local Government Board, a petition strongly advocating the gravitation scheme.

"ALBION" LIFE ASSURANCE COMPANY.

To the Editor of THE LANCET.

SIR,—Will you allow me to state that during the time that I was medical adviser to this Company my sole duty was to examine reports and proposers, and it would have been impertinent, in both senses of the word, if I had questioned the latter as to their object in insuring their lives. I never saw the Company's books, and was never in the Board-room, excepting once in a month or so to answer some question respecting a life. When Mr. B. Henderson and my old College friend, Mr. Jex Blake, told me their grievances, I resigned at once, and transferred my ten shares to my successor, Dr. Sillifant, a former auditor of the Company. Of course I now deeply regret that I ever heard of "the Albion Life Assurance Society."

I am, Sir, yours truly,

DANIEL HOOPER, M.A. & M.B. Lond.

Trinity-square, S.E., March 12th, 1878.

THE SETON.

IN the recently published Report of the United States Marine Hospital Service will be found a paper by Dr. Griffiths on the "Seton in Paralysis and Epilepsy." Of 18 cases of hemiplegia treated in the Marine Hospital, Louisville, in one case only, that of a patient who died under treatment two months after admission, did the seton fail to benefit. Of the other 17 cases, 10 recovered, and the rest were much relieved. Four out of five cases of epilepsy treated with the seton were greatly benefited. The author introduces a large seton, fifteen to twenty strands of silk or flax thread, and allows it to remain for months if necessary, removing it only when the patient is either permanently improved, or too great irritation is induced. Dr. Griffiths states that he has also used the seton with good results in the treatment of obstinate iritis.

A Registered Practitioner.—The Medical Council is not rendered by the Medical Act a prosecuting body. Still we join in the expressed idea of our correspondent, that, considering the income of the Council, amounting to over £6000 per annum, derivable from fees paid to the three Branch Councils, and dividends (we quote from last year's Medical Register), in a case of more than ordinary importance, pecuniary aid might well be afforded *by it* to the Association named.

Dr. George Hay, (Alleghany City, U.S.)—The paper was much too long for insertion. We think, moreover, that cases would be necessary in illustration of the writer's views.

Mr. Vallance.—Sir Henry Thompson's, published by Messrs. Churchill.

"DISTOMA SINENSE" (M'CONNELL).

To the Editor of THE LANCET.

SIR,—More than two years ago (THE LANCET, August 21st, 1875, p. 271) I had the honour to forward to you a description of a new species of liver fluke, to which soon after Professor Cobbold gave the above designation. Since then Dr. Macgregor, of Fiji, has recorded (*vide* THE LANCET, May 26th, 1877, p. 775) the occurrence of the same parasite in the bile-ducts of the liver in three fatal cases (out of eight) of a "peculiar form of paralysis" observed by him among the Chinese in that part of the world. This announcement was full of pathological interest, inasmuch as Dr. Macgregor associated the paralytic symptoms with the presence of these flukes in the liver.

I had not met with another case since the original one above alluded to till the present month, and now, curiously enough, the subject was again a Chinaman. I trust, therefore, you will kindly allow me a little space to record very briefly the main features of this fresh "find."

Affoo, a Chinaman, aged forty-five, by occupation a cook, and employed as such on board one of the steamers plying between this city and Hong-Kong, presented himself to me as an out-patient on Jan. 2nd, 1878. He spoke neither English nor Hindustani, and a friend who came with him to act as interpreter was almost equally ignorant of these languages. Any satisfactory history could not therefore be obtained. All that could be ascertained was that he had been suffering from intermittent fever for about a month, and that during the last ten days œdema of the lower extremities, with difficulty of breathing, had supervened. On examining him, I found the evidences of marked dilatation of the right side of the heart, with insufficiency of both aortic and mitral valves. There was no palpable enlargement of the liver, but pain, or rather tenderness on pressure, over the hepatic region. The spleen was normal. I admitted him into hospital, and he lived until the morning of the 5th January. For eleven hours preceding his decease he was quite unconscious, the insensibility coming on somewhat suddenly after a very free evacuation from the bowels the preceding afternoon. Respiration became towards the end very obstructed, and gasping in character, and he died with syncopal symptoms, in spite of the free administration of diffusible stimulants. During the two days he was under observation in the hospital no marked rise in temperature was noted, and no other symptoms but those clearly referable to the cardiac lesion were developed. There was not the slightest evidence of any form of paralysis.

At the autopsy, made nine hours after death, the heart mischief diagnosed during life was fully confirmed; in addition to which the brain was soft and œdematous; the lungs dark, heavy, full of bloody, frothy serum, and with a few patches of lobular pneumonia; the spleen was small and contracted, weighing only four ounces; the mucous membrane of the stomach and intestines was darkly congested in patches, and thick-looking from œdematous infiltration. As regards the liver, it was somewhat small and contracted, weighing one pound ten ounces; the capsule thickened, and surfaces granular; on section, firm and markedly "nutmeggy"; the bile-ducts prominent and full, and, on dissecting them out, several (I have collected five) distomata were found, one or two of them exhibiting slight movement as if still alive. None were found in the gall-bladder, nor in the contents of the alimentary canal.

The distomata thus found are quite identical with those originally described by me. Since these parasites have hitherto been discovered only in Chinamen, there is a very strong probability of their introduction by means of some kind of food peculiar to these people. The observation by Dr. Macgregor on this point with reference to the "bêche-de-mer" (a species of snail, forming a favourite article of diet with the Chinese) is very interesting. In regard, however, to the question of an association between the presence of these parasites and any form of paralysis, no support is afforded by this case to Dr. Macgregor's suggestion, and indeed I am inclined to believe that there do not exist any special symptoms of liver infection by these flukes—nothing by which the disease can be recognised during life. The remarkable peculiarity seems to be its limitation (so to speak) in all cases hitherto recorded to one race (the Chinese), and I would add that this fact renders the name given to the fluke by Cobbold all the more appropriate and distinctive.

I am, Sir, yours faithfully,

J. F. P. M'CONNELL, M.B.,
Professor of Pathology and Resident Physician,
Medical College, Calcutta.

January, 1878.

CREMATION.

THE *New York Times* states that the body of the late Mrs. Pitman, of Cincinnati, was cremated at Washington, Pennsylvania, on the afternoon of the 15th of February. The memoranda of the superintendent of the ceremonies, Mr. Blackhurst, are as follows:—"1.58, body put in retort; 2.15, colour of heat pale orange, temperature 2000°; 2.45, colour bright orange, temperature 2300°; 3.10, colour bright green, most of the bones fallen; 3.45, colour bright green, pelvic bones gave way." The burning was then considered complete, and the fire was drawn from the furnace. Mr. Pitman says that he intends to put the remains at the roots of a rose bush, that the blooming and fragrant rose may bring brightly before his mind the memory of his loved and faithful wife. She was an Englishwoman—Miss Jane Bragge,—and was married to Mr. B. Pitman at Birmingham. In 1850, soon after their marriage, they went to the United States.

Mr. Waller.—The fee should be the usual amount charged for such cases in the locality. The legally qualified practitioner can have nothing to do with the quack "bone-setter."

HARVEY TERCENTENARY MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—I am commissioned by the Executive Committee of the above Fund to ask that you will be so good as to advocate in the columns of your influential journal the object for which this Memorial Fund has been established, and that you will also receive at the Office of THE LANCET the subscriptions of persons willing to contribute to the Fund.

About half the money (£1600) required for the erection of a statue of Harvey has been already subscribed. It is most desirable that the remainder should be forthcoming at once, as the 300th anniversary of Harvey's birth will occur on the 1st of April in this present year. I enclose a statement of the object of the Fund, and a list of subscribers up to the present date.

I remain, Sir, your obedient servant,
GEORGE EASTES,
Hon. Sec. to the Harvey Terc. Mem. Fund.

Connaught-street, Hyde-park-square, March 13th, 1878.

*** In this matter there is an element of urgency, seeing there is but a fortnight between this and the 300th anniversary of the birth of Harvey. There may well be some sense of shame in the mind of both the public and the profession that, after two or three years of work and importunity by Mr. Eastes and others, only half of the needed £1600 has been raised. This is a truly national matter. But the nation does not always know its most meritorious men in science. There is the more need for the profession to take the question into its own hands by responding promptly to the appeal of the Committee of the Tercentenary Memorial Fund, and enabling the Committee to complete a statue worthy of Harvey and his place in the history of discovery. We shall be most happy to receive subscriptions.—ED. L.

Italia.—1. Our correspondent should write to the Director-General of the Army Medical Department, stating his case and wishes.—2. Apply to the Secretaries of the different Societies (see the advertisement columns of *The Times*).—3. We are unable to express a definite opinion about the Transvaal. Probably information could be obtained from some of the colonial agents.

Student.—There is no work of the kind.

THE UNIVERSITIES OF GLASGOW AND MELBOURNE.

To the Editor of THE LANCET.

SIR,—In "Cantab.'s" letter, which appeared in your journal of the 2nd inst., he makes certain statements exculpatory of the recent conduct of the authorities of the Melbourne University in reference to Glasgow graduates.

I do not know enough of what is done at Glasgow to be in a position to contradict his statement on that head; but I am of opinion that he is probably as much in error there as, I am informed on undoubted authority, he is as regards the Melbourne curriculum.

It is true that in the first of the five years' study at Melbourne, Chemistry is the only medical class taken; but in the second year two classes *at least* are attended—viz., Anatomy and Materia Medica, which are sufficient to constitute an *annus medicus* anywhere.

"Cantab." fancies that "cramming" must be practised at Glasgow. Now, if he knows anything of medical examinations, he may imagine to what an extent cramming must be had recourse to at Melbourne when I tell him, again on the authority of a Melbourne student, that, excepting Anatomy and the Clinical questioning, all the examinations there are *written* ones.

Yours &c.,
March 8th, 1878. SCOTSMAN.

Mr. John Wray.—Unfortunately a registered practitioner can, and may so far as the law is concerned, do many things which are neither creditable nor, in a professional sense, respectable. The Colleges exercise no control over their members or licentiates. This phase of the duty devolving on medical corporations is systematically neglected.

Mr. Charles Fisher.—The subject is still under consideration, and the event uncertain.

RIGA BALSAM.

To the Editor of THE LANCET.

SIR,—Will you kindly give me an opportunity of ascertaining through your columns where can be obtained a drug much used in Russia for bronchial affections. It is known by the name of "Riga balsam," and is prepared from the shoots of the Siberian stone pine—*Pinus cembra*. I have been trying in vain to procure it from all the likeliest sources I can think of.

Yours truly,
March 9th, 1878. E. P. P.

THE HOSPITAL SATURDAY FUND.

THE receipts of this Fund amounted during the past year to £5786, of which 18 per cent., or over £1000, was absorbed by the necessary expenditure. The Committee draw attention to the fact that the working classes lose much valuable time by waiting in the out-patient rooms of the hospitals and dispensaries, and "by being obliged to go to a particular part of London during the most important hours of the day." We can hardly understand the latter point, seeing that the hospitals are tolerably equally scattered throughout the metropolis; and, since all the big hospitals have now their special departments, there is no need for a working man to make a long pilgrimage to an institution which has been started for the benefit of a specialist.

A Friend of the Clerks.—1. The clerks of the Medical Council have been in their position as such for a period extending over nineteen years but during that time have been granted but one advance in their salaries.—2. We also are of opinion that their income is not so much paid by the Council as from the registration fees of the medical profession.

Itchibee.—Garrod's Materia Medica and Attfield's Pharmaceutical Chemistry; Tayler's or Guy's Medical Jurisprudence.

THE NAVAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Your able advocacy of naval medicine deserves full recognition from those most intimately concerned, more especially in bringing experienced opinion to bear upon the suggestions offered for making this branch of the service more popular and efficient. By a recent circular, conferring lieutenant's rank on surgeons at entry, a few may have been induced to join; but a month's observation enables the aspirant to perceive that he travels in the same groove from twenty to twenty-four years, dependent on the time lost by half-pay. His naval rank is a constant quantity for that time. For all practical purposes there is no real difference in the service between the lieutenant of eight and under eight years' seniority. The duties are identical, and the distinction on board a man of war is fictitious. Everyone knows that its creation was nearly coincident with, and subversive of, the Pakington attempt to give commander's rank to the surgeons of some sixteen years ago. Besides, what lieutenant ever expects promotion after twenty years' service as such! At this moment there are *four* out of the eight hundred and three on this list who have this seniority, and they would not readily admit that their prospects are very bright of attaining the goal of their ambition. In other words, the senior staff surgeons hold for years a position from which, relatively speaking, the lieutenants of similar time rarely hope to rise except as retired commanders.

The naval doctor soon sees the vanity of attempting to ignore the importance of rank distinctions between different grades, which acquire a permanent force from being woven into everyday life of a military service. Rank is, therefore, a palpable test of his relative official worth, and its recent increase to beginners may have had an *ad captandum* purpose. But after twenty (or rather twenty to twenty-four) years' shore practice the town or provincial doctor is not quite the social being that he was on commencing his career. The position achieved is a pretty exact measure of his merits, unless promoted for special or war service, and there may be five such in the last ten years. The naval surgeon ranks with a lieutenant for twenty to twenty-four years, and is distanced by 99½ per cent. of his executive compeers long before the expiry of the twenty-fourth year.

Of course it would be a different thing if the surgeons were a mere extraneous appendage in, but not of, the navy, and secure from climates, bullets, and torpedoes. Unfortunately cholera and yellow jack are cruelly regardless of civilian disabilities, rank and uniform, circulars, &c. One surgeon was drowned in the *Bombay*, three in the *Captain*, one (two?) in the *Orpheus*, two in the *Camilla*, one in the *Racehorse*. The *Merhudda* and *Sappho* have not been heard of. One surgeon, it is believed, was hacked to pieces in the last China war by the Celestials. Torpedo warfare may be left to the imagination.

It is surely reasonable for the doctors to expect a fair field as well as no favour. The difficulty is one of simple calculation. Obviously the average time taken by lieutenants and commanders to attain promotion is the natural basis by which to promote surgeons and staff surgeons for ordinary service. But experience has shown that the Admiralty are desirous of retaining for their own order most of the rank advantages worth mentioning. Hence the custom of holding out pecuniary baits to new-comers, with one recent exception. It would be invidious to inquire if the Treasury had any hand in this concession, which required no outlay. A continuance of the filthy lucre inducement would imply a settled belief in the impossibility of making this truly great service popular, and of successfully competing with private companies. Follow up this policy, and it may have to be assisted by the untried and questionable procedure of adequate retirement after ten and fifteen years' service to men in the prime of life. Is it possible that their lordships have been all these years unconsciously on a wrong scent? Have they failed to perceive that medical humanity is as susceptible to the attractions of official appreciation as the combatant variety of poor human nature? Have they allowed the doctor to ascend the service *pari passu* with his executive compeers? Is he permitted to feel that he is an integral portion of a distinguished force by considerations more agreeable to his individuality than civilian restrictions and the penal clauses of the Discipline Act? No doubt their lordships have a desire to popularise the navy. They and the Treasury have some interest in solving this problem. Could a medical body, poor of course, but proud of its position, with a fostered *esprit de corps*, reasonable elbow-room, and a developed, not crushed or cramped, departmental energy, have been procured for less than the present cost?

I remain, Sir, yours truly,
March, 1878. VITIS.

CALIFORNIAN WINES.

It has for some time been the opinion of competent judges that in the course of a few years California will send to the European markets wines able to bear comparison with the choicest vintages of the Rhine and the Moselle districts. At the exhibition of wines held in South Kensington a few years back, the wines took a very high place, and led many to think that California is *par excellence* the wine-growing country of the future. A paper on "The Chemical Composition of Californian Wines," by Mr. W. J. Macadam, will be found in the *Pharmaceutical Journal* for March 2nd. The results obtained were very favourable, and will tend to justify the expectations entertained regarding the quality of the wines.

Mr. Greencock.—The circumstances detailed are inconsistent with the obligations of professional etiquette. We are unable to publish the letter owing to the great pressure on our space.

Dr. Richard Caton.—Yes.

AN APPEAL.

To the Editor of THE LANCET.

SIR,—May I venture to ask you to insert my appeal in the next issue of THE LANCET on behalf of a medical man, now lying helpless from accident and disease? The facts are shortly as follows:—

Mr. W. H. Barber, L.R.C.P. Lond., of this town, has for the last three years been unable to follow the active duties of his profession in consequence of an accident, whereby he lost the entire use of his right arm. For some months past he has been under my care, suffering from partial loss of power in the lower extremities, and has been during the whole of this period confined to his bed. He is now, I find, without adequate means for his support, having been unable (like too many of us) to make a provision for a rainy day out of a slender and laborious country practice. I propose, therefore, making an appeal on his behalf to the profession, hoping by so doing to secure for him that amount of comparative ease and comfort during the remaining portion of his life which I would earnestly desire for myself or for others who might be so unfortunately placed. The merits of his case are well known to, and can be attested by, the Rev. B. Somerset, M.A., Rector of Crickhowell; and the Rev. George Howell, R.D., Rector of Llangattock.

Any contributions will be thankfully received by me, and, with your permission, acknowledged in THE LANCET.

I am, Sir, your obedient servant,
PHILIP E. HILL, M.R.C.S. Eng.,
Surgeon to the Crickhowell Dispensary, &c.

Crickhowell, March 9th, 1878.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir J. Fayrer, London; Dr. R. E. Thompson, London; Mr. Calwell, Willenhall; Mr. Anderson, London; Mr. Aylward, Barnoldswick; Mr. Vallance, Sidmouth; Mr. Stanger, Nottingham; Messrs. Hurter and Co., London; Sir C. Russell, London; Mr. Randall, Slade; Captain Mercier, London; Mr. Page, London; Mr. Moore, Brighton; Mr. Gardner, Crieff; Mrs. Chute, Bristol; Dr. Caton, Liverpool; Dr. Boileau, Southsea; Mr. Hill, Crickhowell; Mr. Hudson, Barkley, South Africa; Dr. Price, Jessore, Bengal; Dr. Crowther, Hobart Town; Mr. Field, Bath; Messrs. Burgoyne and Co., London; Mr. Roberts, Bombay; Mr. MacDowall, Neemuch, India; Dr. Thomas, Adelaide, South Australia; Dr. H. Bennett, London; Mr. Gordon, London; Mr. Walshe, Bromley; Mr. Wigmore, London; Mr. Crnigie, London; Mr. Beale, Kensington; Mr. Luck, London; Mr. Fraser, Ashburton; Mr. Brown, Bacup; Dr. Fox, Bristol; Dr. Moorhead, Weymouth; Mr. Thomas, Birmingham; Dr. J. Williamson, Ventnor; Mr. J. Brown, Battersea; Mr. Bigg, London; Dr. Holles, Brighton; Mr. E. Huxley, London; Mr. Pringle, Irvine; Mr. Spratt, Hackney; Mr. Aspinall; Dr. Hooper, London; Dr. Johnson, Brighton; Dr. Tatham; Dr. Little, Liverpool; Mr. Reid; Dr. Frain, South Shields; Mr. Stein; Dr. Wray, Newcastle; Dr. Illington; Dr. Davis, Dewley; Dr. Dale; Dr. Cribb; Mr. Taeson; Mr. Ingpen; Mr. Heisch; Mr. Roberts; Mr. Grewcock; Mr. Kinns, Highbury; Mr. Bloomfield, Lynn; Mr. J. W. Barnes; Mr. H. D. Reed; Mr. Murphy; Mr. Hansell; Mr. Baker; Mr. G. G. Jones, Liverpool; Dr. J. De Burgh Griffith; Mr. Allan, Liverpool; Dr. Clark, Pawsey; Dr. Veranes; Mr. Russell; Mr. Brummell, Kembel; Dr. Thorburn; Dr. Coombs, Castle Cary; Dr. Garstang, Blackburn; Dr. Wightman; Scotsman; E. P. P.; H.; Scrutator; L.R.C.P. Lond.; Enquirer; A Claimant; Itchiboo; A Student; A Painter; Apothecary; E. W.; The Registrar-General of Births and Deaths; Observer; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Mercer, Wadhurst; Messrs. Harvey and Reynolds, Leeds; Dr. Hardwicke, Sheffield; Dr. Christie, Glasgow; Mr. Cleland, Adelaide, South Australia; Mr. Robertson, Melbourne; Dr. Mackenzie, Gainsborough; Mr. Mason, Cape Colony; Mr. Kershaw; Mr. Curtis; Dr. Christie, Hillhead; Mr. Griffith; Mr. Kemp; Mr. Pratt; Dr. Foot, Wells; Mr. Lambert; Messrs. Cole and Son; A. B., Belfast; Z. Y. X.; M.D.; A. X. Y. Z.; A. B., York; Cambridge; M.D., Bellelsle-en-Terre; Medicus, Blackburne; R.; W. T., Derby; Vendor; T. B.; Medicus, Wolverhampton; M. S.; M. C. N. W.; D. C. H.; Surgeon; J. H. L., Brighton; Medicus, Kensington; R. H. A.; F. W. S.; Medicus, Wickhambrook; J. D. P., Margate.

Home Chronicler, Hastings and St. Leonard's Times, Ripon Gazette, West London Express, South Australian Register, Accrington Times, Warrington Examiner, Borough of Wednesbury Herald, Social Notes, Carnarvon Herald, Night and Day, Yorkshire Post, Financial Opinion, British Architect, &c., have been received.

Medical Diary for the ensuing Week.

Monday, March 18.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 1½ P.M.; on Wednesday, 2 P.M.; on Thursday, 1½ P.M.; and on Saturday, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. Squire, "On two Cases of Flat Vascular Nævus successfully treated by repeated Linear Scarification."—Dr. Sullivan, "On the peculiar Function of the Spleen, and the influence of Malaria upon it."

Tuesday, March 19.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Garrod, "On the Protoplasmic Theory of Life, and its bearing on Physiology."
STATISTICAL SOCIETY.—7½ P.M. Mr. C. Walford, "On the Famines of the World."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. Meeting for the Exhibition of Specimens illustrating Diseases of the Lymphatic System, including Lymphadenoma and Leukæmia. Specimens will be shown by Dr. Wilks, Dr. Gowers, Dr. Greenfield, Dr. Goodhart, Mr. Nunn, Dr. R. Jones, Dr. Whipham, and others.

Wednesday, March 20.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Ferrier, "On the Localisation of Cerebral Disease."
ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.—8½ P.M. Ordinary Meeting.

Thursday, March 21.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Professor Dewar, "On the Chemistry of the Organic World."
HARVEIAN SOCIETY.—8 P.M. Dr. Edis: "Cases illustrating the Diagnosis of Abdominal Tumours."—Dr. Ashburton Thompson: "Cases of alleged Maternal Impressions."

Friday, March 22.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Ferrier, "On the Localisation of Cerebral Disease."
ROYAL INSTITUTION.—3 P.M. Weekly Meeting.—9 P.M. Professor Tyndall: "Recent Experiments on Fog signals."
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Ordinary Meeting.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. Hutchinson: "Retinitis Hæmorrhagica; its connexion with Gout, and probable dependence upon Thrombosis of the Vein."—Dr. Broadbent: (1) "Unusually rapid Effusion of Bloody Fluid into the Pleural Cavity at the age of seventy-six; Paracentesis; Recovery." (2) "Pleuritic Effusion; sudden Death without Paracentesis."—Mr. Nunn: (1) "Electrolytic Treatment of Epulis." (2) "Plantar Bunion."

Saturday, March 23.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Rev. W. Houghton: "Gleanings from the Natural History of the Ancients."

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